

Orange County Community Health Assessment

December 2007

**Submitted to the North Carolina
Department of Health and Human Services,
Division of Public Health,
Office of Healthy Carolinians**

**By the Orange County Health Department
and Healthy Carolinians of Orange County**



Dedication

This document is dedicated to the residents of Orange County. Thank you to all Orange County residents for your awareness of the community's health strengths and needs and your willingness to share your thoughts and opinions with the Orange County Community Health Assessment Team.

May the ideas, projects and solutions that evolve from this process be driven by and for members of the Orange County community.

Acknowledgements

This assessment would not have been possible without the help and support of many individuals and groups of people who work and live in Orange County. The Orange County Health Department and Healthy Carolinians of Orange County would like to thank the following individuals and groups for their assistance during the course of this assessment:

- ❖ The Community Health Assessment Team members and all of the Healthy Carolinians partners and member agencies for their dedication and guidance in making the assessment a true *community* assessment by being involved and involving others from all over Orange County in this process. See Appendix A and B for a full list of Community Health Assessment Team members and a list of individuals who contributed to each of the sections.
- ❖ The many volunteers who helped conduct the Community Health Assessment Surveys. Thanks to their help, valuable data from community members was collected and incorporated into this document, ensuring that the community's voice was heard throughout the process. See Appendix C for a list of volunteers.
- ❖ All of the community members who agreed to be interviewed and provided valuable information about the health of Orange County.
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*** Graph is inserted throughout document; however it is only listed here the first time it appears in the document.*

EXECUTIVE SUMMARY

The following document represents the results of a year-long effort to assess the health needs of Orange County. We have made every attempt to be as inclusive as possible in all areas and to represent a broad range of opinions, ideas and secondary data about health issues that affect Orange County. We recognize that there may still be areas that are not included in this report, but feel that this report represents the opinions of a significant portion of community members, health care providers and affiliates.

Assessment Process

Hundreds of people were involved in the completion of this assessment that includes both secondary data related to health and issues that impact health, as well as primary data collected from individuals in the community related to their perspectives on the health of Orange County. A community health survey was used to collect primary qualitative data for this report and to determine the community's top health, social, and environmental concerns. Two hundred and two county residents participated in the community health survey conducted in the spring of 2007. Secondary data for this report was collected several ways. Statistical data was gathered from local and state-wide organizations, as well as various local and national level surveillance systems. Data on utilization and service delivery was also gathered from local service providers in the community. Using both primary and secondary data results in a more in-depth and reliable assessment of the specific factors that affect the community's health.

Together, members of the community, the Community Health Assessment Team and community agencies helped analyze the data and determine the new priority areas that Healthy Carolinians of Orange County, the Orange County Health Department and our many partners will focus on for the next four years. Below is a summary of the areas of celebration and areas of concern within Orange County.

Summary of Findings

Areas to Celebrate

Much of the data in this document reflects the fact that overall, Orange County residents are healthier than others in the state, and for this we should be proud. In particular, some areas to celebrate include:

Excellent Educational Systems

Over half of Orange County residents age 25 and older possess a Bachelor's degree or higher compared to 27.2% nationally. The University of North Carolina is consistently ranked as one of the top public universities in the nation and there is strong support for public education in the County. Additionally, both public school systems are experiencing lower than state average drop out rates.

Low Unemployment Rates

In 2006, the unemployment rate for Orange County was 3.3%, one of the lowest unemployment rates in NC and lower than the state unemployment rate of 4.7%. Additionally, between 2005 and 2006, Orange County saw an increase in private sector jobs.

Low Teen Pregnancy Rates

In 2006, the rate of teen pregnancy in Orange County was one of the lowest in the state at 20.9 pregnancies per 1,000, compared to the state rate of 63.1 pregnancies per 1,000. However, there is a significant disparity between whites and minorities with almost a three-fold increase in minority pregnancy rates, 14.1 and 40.5 respectively.

Low Diabetes Mortalities

Between 2001 and 2005, the death rate due to Diabetes was 17.8 per 100,000; a rate below the objectives set by NC 2010. In addition, a high percentage (~96%) of residents reported getting the recommended diabetes screenings (A1c and foot exams).

Low Smoking Rates and an Increase in No Smoking Policies

In 2006, only 12% of Orange County adults reported that they were smokers. Orange County's rates for smoking not only met, but exceed the Healthy Carolinians 2010 objective of 12.5% and are much lower than the state-wide rate of 22.6%. In addition, there has been an increase in the number of schools, hospitals, organizations and restaurants who are now smoke and/or tobacco free.

Good Waste Management

Orange County has seen a 46% reduction in per capita waste production since 1992. In addition, survey data indicates that Orange County has high rates of recycling, with 86% of survey respondents reporting that they recycle.

Most Pressing Health Concerns

An overarching theme throughout the document is that disparities still exist between minority and majority race community members, between higher and lower income residents and among those with disabilities. Data on disparities is highlighted within each section.

Results from the community health survey questions revealed the following top concerns among the community.

#	Social	Health	Environmental
1	Affordable health insurance	Lack of health insurance	Development
2	Homelessness	Drug and alcohol abuse	Water pollution
3	Risky teen behavior	Overweight and obesity	Air pollution

Based on all the data, including the top health concerns chosen by the community, the following five areas were selected as priority focus areas.

Health Promotion

Obesity rates continues to rise across all ages, genders, and racial/ethnic groups in the County, with 51.6% of Orange County adults reported as overweight or obese, and 35% of children seen in WIC or health department clinics reported as overweight or at risk. County data shows that the majority of Orange County residents are not eating a healthy diet or getting the recommended levels of daily physical activity, which is thought to be a significant contributor to the rise in obesity.

Access to Health Care/Health Insurance

While Orange County has a large number of health care providers and numerous health care facilities, many residents do not receive the services they need. Data indicates that 15% of Orange County residents lack health insurance, and survey data shows that affordable health care and lack of health care are two of the top social and health concerns among residents.

Adult Mental Health and Substance Abuse

It is estimated that 15 to 20% of adults suffer from significant mental illness that impacts their functioning. Mental health was the fourth most important health concern among residents, and approximately 17% of residents felt it was difficult to access mental health services, particularly for the uninsured. Others noted that there is a need for more continuity in care between crisis services and continued care services, and that larger agencies need to refer to smaller agencies to reduce waiting periods. Additionally, residents cited substance abuse as

the second most serious health concern in the community and it is estimated that substance abuse is NC's costliest health problem and a problem that exists within our community.

Child and Adolescent Health

Risky teen behavior was a top social concern among residents. One aspect of child and adolescent health is mental health. It is estimated that 2,880 children and adolescents in Orange County have mental health needs. Residents expressed the need for more education about mental health issues and the need to know where and how to access services. Additionally, residents expressed the need for more continuity in care between crisis services and continued care services. Another factor affecting child and adolescent health and teen risky behavior is substance abuse. While it is difficult to assess the extent of substance abuse among youth, school data suggest that a large percent of youth are using substances such as alcohol, marijuana, and cocaine.

Transportation

Transportation was repeatedly cited as a barrier to accessing needed services including health services, social services, and recreational opportunities. Transportation is of greatest concern for residents who do not have access to the public transportation services, specifically residents who live in Northern Orange County and other rural areas and for persons with disability and the elderly.

Emerging Issues

Each section of the document includes data on emerging issues, but some of the ones that stand out overall include the increasing number of foreign immigrants in the community, predominately of Hispanic origin, but also from Asia, Burma and many other parts of the world. There will need to be more culturally diverse services and information made available to help these new residents remain healthy in our community.

Another emerging issue that will impact Orange County is the growth in the older adult population. As baby boomers age and more people choose Orange County as a place to retire, the older adult population is expected to grow exponentially and will create a demand for additional services (including medical services, recreational opportunities, and public transportation). It is important for all agencies to plan for this growth and address the needs of this population.

Next Steps

A goal of the Orange County Health Department and Healthy Carolinians of Orange County is for the information gleaned from this document to be widely shared and utilized to influence strategic planning across the community. Healthy Carolinians of Orange County will develop committees or task forces to determine further actions to initiate as a result of this report. It is likely that additional analysis of the issues and their underlying causes will be necessary in order to fully understand and respond to the identified needs.

CHAPTER 1: COMMUNITY HEALTH ASSESSMENT PROCESS

Why Do a Community Health Assessment?

The NC Department of Health and Human Services requires Local Health Departments to conduct a community health assessment every four years. Regular assessment of a community's health enables local public health officials to monitor trends in health status, determine priorities among health issues, and determine the availability of resources within the community to adequately address these factors. In addition, information gathered through the assessment lays the foundation for effective, strategic community health planning. A primary goal of the assessment process is to involve the community in every phase of the assessment, including data collection, evaluation, identification of health problems, and the development of strategies to address these problems. Community involvement helps to ensure that the true needs of the community are identified and addressed.

Overview of the Assessment Process

To fully understand the community's perspective on health and determine what health issues the community considers to be most important to address in the coming years, a variety of people were involved in the assessment process. The Health Department, together with Healthy Carolinians of Orange County and the 50 member agencies that make up Healthy Carolinians, worked collaboratively to complete the community health assessment. The assessment process began in October 2006 with the formation of a Community Health Assessment Team and the final assessment was completed in November 2007. The Community Health Assessment Team, made up of interested agency and community representatives, guided the assessment process. The Team met to determine its major tasks, develop a timeline, plan and conduct the community health survey and form subcommittees for data collection development. See Appendix A for a list of the Community Health Assessment Team members. Data collection and analysis took place between December 2006 and September 2007. The new community health priorities were selected in September 2007, at the Healthy Carolinians of Orange County annual meeting. Chapter 14 outlines the prioritization process and the County's new health priorities.

Data Collection Methodology

This report was created using both primary and secondary data sources. Primary data is data collected directly from the community through surveys, interviews or focus groups. Secondary data is information that has already been collected by someone else. A community health survey was used to collect primary qualitative data for this report and to determine the community's top health, social, and environmental concerns. Secondary data for this report was collected several ways. Statistical data was gathered from local and state-wide organizations, as well as various local and national level surveillance systems. Data on utilization and service delivery was also gathered from local service providers in the community. Using both primary and secondary data results in a more in-depth and reliable assessment of the specific factors that affect the community's health. See Appendix B for a list of individuals who contributed to this assessment.

Primary Data Collection

Community member input was obtained through a community health survey. The Community Health Assessment Survey was created by the Community Health Assessment, with the help of UNC's Team Epi Aid. The survey consisted of fifty-seven questions about various health

topics. A complete copy of the survey can be found in Appendix D in English and Appendix E in Spanish.

The surveys were carried out by a team of 70 volunteers, over the course of four days (two weekends). Surveyors spent one weekend in the southern half of the county and one weekend in the northern half of the county. To ensure continuity and reliability of data collected, all volunteers participated in a two and a half hour training which covered safety and emergency plans and procedures for conducting surveys (i.e., techniques for conducting unbiased surveys, what to do if someone was not home or chose not to participate, and procedures for Spanish speaking residents). Volunteers carried out the surveys in teams of two. Each team was assigned a specific census block and was given a list of randomly selected household addresses. There were a total of 16 census blocks and 14 households within each census block. Surveys were conducted door-to-door using hand-held GPS units. A paper version of the survey was also completed as a back up in case of equipment failure. All survey participants were given two oranges and a packet of resource materials for their participation.

Over 200 county residents participated in the community health surveys conducted in the spring of 2007. Of the 202 participants who provided demographic information, 57% were female (N=116) and 43% were male (N=86). With regard to race, 77% of participants were white (N = 156), 16% were African-American (N = 33), 2% were Asian (N = 5), and 3% of participants were multi-racial (N =6). Six percent (N=13) classified themselves as Hispanic or Latino origin. Figure 1 illustrates the breakdown of participants by age.

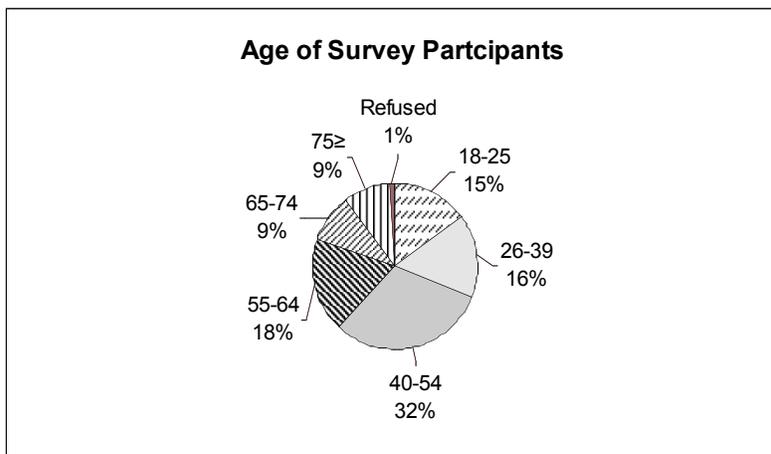


Figure 1: Survey participants by age

Community informants came from different parts of the county and represented various racial, ethnic, and socioeconomic groups. In order to protect their confidentiality, their names are not listed

Primary Data Analysis

Survey data was stored in the hand-held GPS units and downloaded onto the computer after data collection was complete. Data was then cleaned and analyzed. Two graduate students from UNC coded the data and generated graphical analysis of the results. Findings are presented throughout the document under the “Community Survey Results” sections.

Secondary Data Collection

Secondary data was gathered from a wide range of sources, which are cited throughout the document. Major sources of data include websites such as the NC State Center for Health Statistics, the Census Bureau, The North Carolina Child Advocacy Institute, NC Department of Environmental Health and Natural Resources, The NC Department of Health and Human Services, the Sheps Center for Health Services Research, The State Bureau of Investigation and the Department of Public Instruction. Publications used as secondary data sources included: the *State of the Environment 2004*, *North Carolina's Plan for Health and Safety*, *The Orange County Master Aging Plan*, *The Orange County Ten Year Plan to End Chronic Homelessness*, *State of the Local Economy Report*, *the Women's Health Report Card*, and *the Men's Health Report Card*. Three surveys were used extensively for local data; The Behavioral Risk Factor Surveillance Survey (BRFSS) conducted by the State Center for Health Statistics in 2005 and 2006 for Orange County; the Youth Risk Behavior Survey (YRBS) conducted in the Chapel Hill-Carrboro City Schools during the 2006-2007 school year; and the Communities That Care Survey conducted by the Orange County Schools in 2006. Secondary data on utilization rates and services was also gathered from local sources such as OPC Mental Health, UNC Hospitals, Orange County Health Department, Chapel Hill-Carrboro City Schools, Orange County Schools, the Department on Aging, the Interfaith Council, Orange Congregations in Mission, the ARC of Orange County, and Piedmont Health Services.

Secondary Data Analysis

Where available, Orange County age-adjusted rates were compared to North Carolina age-adjusted rates based on the 2000 census or the 2006 American Community Survey. When significant, data was compared to previous years. Every attempt was made to compare comparable data sets and to use rates whenever possible. However, given the nature of surveillance, this was not always possible. Disparities were analyzed by comparing data by race, gender and age from the State Center for Health Statistics data. Disparities were also analyzed by comparing age, race, gender, income and education from the BRFSS and census data.

Organization of Document

The document is organized by chapters that reflect key health areas such as: quality of life, physical health, mental health and environmental health. Each topic area in Chapters four through thirteen are separated into sections. The sections address the NC 2010 Health Objectives, impact, contributing factors, data, disparities, community survey results, resources, gaps and unmet needs, and emerging issues related to each specific topic area. The final chapter in this document describes the process used to select the community health priority areas based on the data presented in this document. There is a brief description of the areas of celebration within the community, as well as the five priority areas of concern and the next steps in creating the Community Health Action Plans.

Orange County is a resource-rich community; therefore many of the most significant resources related to each specific topic are included under the "Resources" sections. By no means do the resource sections include all resources in Orange County. For a complete and up-to-date listing of Orange County resources, call the Triangle United Way 211 resource referral and information line or visit the website www.unitedwaytriangle.org.

It should also be noted that the [NC 2010 Health Objectives](#) that are presented in this document are those that were created by the State Office of Healthy Carolinians and the

Governor's Task Force on Healthy Carolinians in the year 2000. The NC 2010 Health Objectives emerged from the national [Healthy People 2010](#) objectives, and are meant to represent the entire state. Whenever possible, the NC 2010 Objectives have been presented with local data for the purposes of comparison. In some instances, Orange County's current rates are already lower than the 2010 objectives. In other instances, there is no data available on the local level (that could be found), to measure the objectives set by NC 2010. There are also some topic areas which do not have objectives set for them at this time.

The goal of this document was to publish a report that is easy to navigate and enables the reader to quickly go to the section of interest for them and gather useful information on that topic area. This report is meant to be as comprehensive as possible. However, the data presented in the document is a snap shot in time. New services, programs, and data emerge daily; making it impossible for the document to include all of the most recent data and resources available in the community.

CHAPTER 2: COMMUNITY PROFILE

Orange County is a great place to live for the majority of its residents. There are many services and opportunities available to community members, the median income is high, unemployment is low, and the public schools and University are considered to be some of the best in the nation. There is a rich agricultural heritage, a diverse population, beautiful land, open space and excellent public services. Health overall is better than the state average but disparities do exist between racial/ethnic groups as well as between lower income and higher income residents.

This chapter contains the following sections:

- **Geography**
- **History**
- **Land Use**
- **Our Environment**
- **Faith and Spirituality**
- **Demographics**
 - Population
 - Households
 - Education
 - International Population

Geography

Orange County covers 398 square miles of rolling hills with an average elevation of 470 feet above sea level. The County is comprised of three incorporated municipalities, a portion of Mebane (which is mostly in Alamance County) and about 24 other communities (hamlets or crossroads). Chapel Hill is the largest incorporated town with a population of 49,543 as of the 2005 Census estimates. Carrboro, adjacent to Chapel Hill, has a population of 16,425; and Hillsborough, the county seat, 5,382. The other communities include Blackwood Station, Buckhorn, Caldwell, Calvander, Carr, Cedar Grove, Cheeks Crossroads, Dodsons Crossroads, Efland, Eubanks, Fairview, Kennedy, McDade, Miles, Mountain View, New Hope, Oaks, Orange Grove, Schley, Teer, University Station, West Hillsborough and White Cross.¹

History

On September 9, 1752, Orange County was born. At the time it spanned the area from present-day Greensboro to present-day Durham, from the Virginia line to the Uwharrie Mountains. On that day, Orange County became a reality as its first colonial court of Common Pleas and Quarter Sessions was held at Grayfields along the Eno River.

Originally inhabited by the Occaneechi/Saponi nation and other native American tribes, the new county encompassed a land area of 3,500 square miles, including all of present day Alamance, Caswell, Person, Durham and Chatham counties as well as parts of Wake, Lee, Randolph, Guildford and Rockingham counties.² For more information on Orange County's history visit the website: <http://www.lib.unc.edu/ncc/ref/study/orange.html>.

Land Use

Even though we continue to see the disappearance of Orange County forests, forest land continues to be the predominant land use within the county. Farmland is the next most prevalent land use. Residential land use continues to expand, but at the expense of both forest and farms lands. According to recent Commission for the Environment reports, urban sprawl is an increasing problem within Orange County and within the Triangle region, which is rated as the third highest incidence of sprawl in the nation.

Our Environment

This year, a goal of the Community Health Assessment effort was to link health issues with the environment in which Orange County residents live. Environment, like health, can be broadly defined. This report address both the typical understanding of environment and health, such as water or air quality, as well as the non-traditional, but increasingly important relationship between the physical environment of our communities and our health. For example, how our neighborhoods are constructed affect levels of physical activity, or the linkages between availability of transportation systems in neighborhoods and access to health care. More information about the link between these factors and others can be found in Chapter 12: Environmental Health.

Faith and Spirituality

There are 165 established churches, synagogues and other faith organizations located in Orange County. These institutions provide a source of spiritual nourishment and also provide community support and resources to the residents of Orange County. As residents face the challenge of trying to stay connected to their community in an area where the population is

¹ Orange County Economic Development Commission

² Ibid

growing and changing quickly, their spiritual homes become sources of social interaction, information exchange, and even health care.

Demographics

Population

The population of Orange County has more than doubled in the past three decades from 57,567 in 1970 to 120,100 in 2006.³ Growth is projected to continue and the current population is expected to increase to almost 138,272 by the year 2015.⁴ In 2005, 25.3% of the population was under the age of 18, 65% of the population was between the ages of 19 to 64 years and 9.3% were 65 or older.⁵

In terms of where people reside, in 2005, 68% of Orange County residents, (81,4668) lived in the southern "urban" areas of Chapel Hill and Carrboro with the remaining population 32% (38,432) living throughout the rural areas of the county.⁶

As the population grows, the diversity of the population within the community is also growing, a trend that is occurring across the country. Whites make up 78% of the population, while African Americans make up 13.8%. The number of Asian residents has doubled since 1990 and the number of residents of Hispanic origin has quadrupled. The Asian and Hispanic population groups in Orange County together make up almost 11% of the total population with 6,845 Asian or Pacific Islanders counted in the 2005 census and 6,245 residents of Hispanic origin counted.⁷ The Hispanic population, however, has historically been undercounted in census figures because of the fear of deportation if identified. A more accurate estimation of the number of Hispanics comes from the organization FaithAction, which prepares an estimate each year of the Hispanic population in each of North Carolina's 100 counties. The estimates are based on census, birth and other data to arrive at a more accurate figure for the Hispanic population. The FaithAction estimate of Hispanics residing in Orange County in 2005 was 8,123, up from 7,676 Hispanic residents in 2000.⁸ Table 2, A-1 below shows the comparison of population by race/ethnicity between 2000 and 2005.

Race/Ethnicity	1990	2000	2005
White	80.7%	78%	76%
African American	15.9%	13.8%	13.3%
Native American	.45%	.40%	.01%
Asian, Native Hawaiian and Other Pacific Islander	2.5%	4.1%	5.8%
Persons reporting two or more races	N/C	1.7%	1.5%
Persons of Hispanic or Latino origin	5.6%	4.5%	5.6%
		108,104	118,227

Table 2, A-1: Orange County Demographic Profile, 2000 and 2005 Census⁹

³ U.S Census Bureau: State and County Quick Facts: <http://quickfacts.census.gov/qfd/states/37/37135.html>

⁴ LINC (Log Into North Carolina): Population (Census/Estimate/Projection): <http://linc.state.nc.us>

⁵ U.S Census Bureau: State and County Quick Facts: <http://quickfacts.census.gov/qfd/states/37/37135.html>

⁶ Ciy-Data.com: http://www.city-data.com/county/Orange_County-NC.html

⁷ U.S Census Bureau, State and County Quick Facts: <http://quickfacts.census.gov/qfd/states/37/37135.html>

⁸ Faith Action and the International House, 2005 Hispanic Population Estimates for North Carolina Counties.

⁹ U.S Census Bureau, Demographic Profile 2002, 2005.

Households

In 2005, there were 49,355 households in Orange County. Of this number, 29,454 households were owner-occupied and 19,901 were renter-occupied. 26,357 of the total households were family households, with 15,347 households made up of families with children under the age of 18 years. Of these 11,598 were married family households, 3,032 were female-only headed households and 717 were male-only headed households. There were 22,998 non-family households and 16,933 householders who lived alone.¹⁰

Education

Orange County is home to The University of North Carolina at Chapel Hill (UNC-CH), the first state university in the United States, chartered in 1789. The University is consistently ranked as one of the nation's finest public universities. In a 2007 U.S. News and World Report, UNC-CH was ranked as one of the top 5 public schools in the nation, with numerous graduate and undergraduate programs ranked among the top 10 in the nation.¹¹ Furthermore, UNC-CH has produced 16 Rhodes Scholars since 1980 and 39 overall, including the first black female Rhodes Scholar.

The educational level in the county is high, primarily due to the UNC-CH campus. Over half (55.8%) of the County's residents over the age of 25 years possess a bachelor's degree or higher, compared to only 27.2% nationally who have a secondary degree. Approximately eleven percent have completed some college, and 17.8% have high school diplomas. Of the residents 18 to 24 years, 32.4% have completed a Bachelor's degree or higher, 47.8% have completed some college, and 11.7% have high school diplomas. The majority of those who have completed "some college education" are students enrolled at UNC-CH.

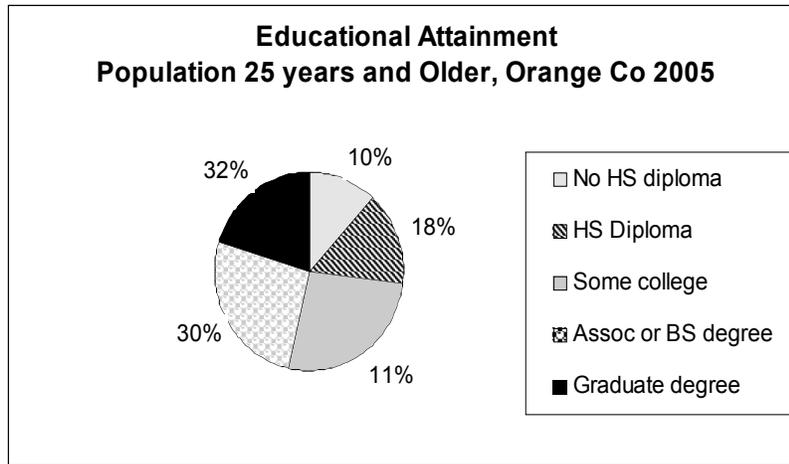


Figure 2, A-1: Educational Attainment for the Population 25 Years and Older, Community Survey, 2005, Orange County, NC¹²

In addition to the University, there is strong local support for public education, with 49% of the county general fund devoted to supporting public education. There are two public school systems in the county, Chapel Hill-Carrboro School System and Orange County School System, with 29 schools serving over 18,000 students grades K-12th in 2007.¹³ The Chapel

¹⁰ U.S Census Bureau, 2005 American Community Survey: <http://factfinder.census.gov/>

¹¹ U.S. News and World Report: <http://www.usnews.com/sections/rankings>

¹² Ibid

¹³ Personal Communication, Chapel Hill-Carrboro City Schools and Orange County Schools Superintendents, 7/25/07

Hill-Carrboro City Schools also run an alternative school, Phoenix Academy, and a school at UNC Hospital for children who are hospitalized. In addition to the public schools, there are three charter schools and ten private schools located in the county.

The drop out rate for students in the Chapel Hill-Carrboro City Schools was less than 1.59% during the 2005-2006 school year, and in the Orange County School system the number is higher, with 4.31% of students who dropped out during the 2005-2006 school year.¹⁴ The statewide drop out rate was 5.04% for the 2005-2006 school year.¹⁵ Drop out data for the 2006-2007 school year is not available yet.

International Population

As mentioned earlier in the population section, there are an increasing number of Latinos and Asians living in Orange County. In addition, we have residents from all over the world. Many are here through ties to the University, but more and more people are moving into the area from around the world.

The Chapel Hill-Carrboro City School System (CHCCS) serves English Language Learners (ELL) of over 58 languages. The fastest growing language population among ELLs is Spanish. The top five languages in the school district among ELLs are 1) Spanish, 2) Chinese, 3) Korean, 4) Japanese, and 5) Russian. Over the past ten years, the ELL population has grown almost 800%.¹⁶

As of May 2007, there were 1100 students (about 10% of the student body) enrolled in the CHCCS English as a Second Language (ESL) program.¹⁷ In the Orange County School System, there were 290 students (about 4.3% of the student body) enrolled in the ESL program.

¹⁴ Annual Report on Dropout Rates and Events, State Board of Education. Accessed: July 26, 2007: <http://www.ncpublicschools.org/docs/research/dropout/reports/2005-06dropout.pdf>

¹⁵ Ibid

¹⁶ Chapel Hill-Carrboro City Schools website: <http://www.chccs.k12.nc.us/esl.asp>.

¹⁷ Personal Communication, Mercedes Almodovar, OCS ESL Program Director, 11/19/03

CHAPTER 3: HEALTH PROFILE

The contents of this chapter serve as a brief overview of the leading health indicators. Please see additional chapters for more detail on most issues included here.

This chapter contains the following sections:

- A) Leading Causes of Death in Orange County**
- B) Leading Causes of Hospitalization in Orange County**

A) Leading Causes of Death in Orange County

The following table presents the ten leading causes of death for Orange County including the total number of deaths and the age-adjusted death rates compared to North Carolina for the five-year period from 2001-2005.¹⁸

Rank	Cause of death	Total # of deaths 2001-2005 Orange County	Age-adjusted death rates per 100,000	
			NC	OC
1	All Cancers	864	197.7	188.8
2	Heart Disease	733	226.6	165.3
3	Cerebrovascular Disease	260	64.7	60.5
4	Chronic Respiratory Disease	144	46.9	34.5
5	Pneumonia and influenza	113	23.3	26.0*
6	All other unintentional injuries	113	26.0	22.5*
7	Alzheimer's Disease	96	27.1	23.1
8	Diabetes	78	27.6	17.8
9	Motor Vehicle Injuries	75	19.3	11.7
10	Nephritis, Nephrosis, Nephrotic syndrome	62	17.9	14.2

Table 3, A-1: Leading Causes of Death 2001-2005 Orange County and NC¹⁹

* Age-adjusted rates for pneumonia and all other unintentional injuries are different because there is a different age distribution in deaths for the two causes.

Table 3-1 illustrates that Orange County has lower age-adjusted death rates than the state averages in all categories except for pneumonia and influenza, where Orange County's death rate is slightly higher.

The leading causes of death for the state for the same five-year period, ranked from 1st to 10th are:

1. Heart Disease
2. Cancer
3. Cerebrovascular Disease
4. Chronic Respiratory Disease
5. Diabetes
6. Other Unintentional Injuries
7. Alzheimer's Disease
8. Pneumonia and Influenza
9. Motor Vehicle Injuries
10. Nephritis, Nephrosis & Nephrotic Syndrom

Please refer to specific chapters for greater detail on these leading causes of death for Orange County.

¹⁸ NC Vital Statistics Volume 2, Leading Causes of Death - 2005 accessed at: <http://www.schs.state.nc.us/SCHS/deaths/lcd/2005/>

¹⁹ Ibid

B) Leading Causes of Hospitalization in Orange County

The following table presents the leading causes of hospitalization for Orange County residents by total number of individuals hospitalized in 2005 compared with hospitalization for the whole state.

Cause of Hospitalization OC	# cases	Cause of Hospitalization NC	# cases
All heart related conditions*	1,371	All heart related conditions*	164,525
Pregnancy and childbirth	1,455	Pregnancy and childbirth	128,279
Other diagnoses**	1,347	Respiratory diseases	96,808
Injuries and poisoning	874	Digestive system diseases	91,574
Respiratory disease	701	Other diagnoses**	75,447
Digestive system diseases	669	Injuries and poisoning	73,651
Musculoskeletal system	570	Symptoms and signs***	57,527
All cancers & neoplasms	518	Musculoskeletal system	52,410
Genitourinary disease	433	Genitourinary disease	46,248
Endocrine, metabolic, nutritional	339	All cancers & neoplasms	45,843

Table 3, B-1: Inpatient Hospitalization by Principal Diagnosis, Orange County and NC, 2005²⁰

* Includes cardiovascular, circulatory, heart and cerebrovascular diseases

**Includes mental disorders

***Symptoms, signs and ill-defined conditions

Looking at the number of cases alone, the leading causes of hospitalization in Orange County vary somewhat from those in the state overall. It is difficult to draw any definite conclusions about hospitalization compared to the state based on these numbers alone. The total number of hospitalizations for Orange County in 2005 was 9,255 at a discharge rate of 75.9 per 1,000. This can be compared to the 945,231 hospitalizations reported statewide at a discharge rate of 108.9 per 1,000 suggesting a much higher hospitalization rate statewide than in Orange County.²¹

See remaining chapters for specifics on causes and rates of illness and injury in Orange County as well as information on access to health care systems.

²⁰ Inpatient hospitalization utilization and charges by principal diagnosis and county of residence, North Carolina, 2005. State Center for Health Statistics 2007 County Health Databook accessed at:

<http://www.schs.state.nc.us/SCHS/data/databook/>

²¹ Ibid

Chapter 4: QUALITY OF LIFE

The diversity that exists in the population of Orange County, in the people, their lifestyles, and their experiences, serves to enrich the county in many ways. It also creates a complex array of factors that converge to impact resident's health. This section presents findings related to resident's quality of life and the ways in which the community structures serve to improve or impinge upon resident's efforts to maintain health.

This section also highlights an overarching theme in this assessment – that poverty and the affects of poverty have a substantial impact of an individual's health and overall quality of life. This theme that will be continued throughout the document.

This chapter contains the following sections:

- A) Access to Health Insurance**
- B) Access to Health Care**
- C) Economic Issues**
 - C1) Income and Poverty
 - C2) Employment
 - C3) Housing and Homelessness
 - C4) Hunger
- D) Crime and Safety**
- E) Child Care**
- F) Recreation**
- G) Transportation**

A) Access to Health Insurance

Healthy Carolinians Objectives for health insurance are:

Increase the proportion of adults 18 years and older with health insurance coverage to 100 percent

The Sheps Center for Health Services Research estimated that in 2005, 83.3% of Orange County adults, ages 18 to 64 years, had health insurance coverage.²² This figure represents a slight decrease since 2004, when the number was 83.7%.

Increase the proportion of children birth to 18 years, with health insurance coverage to 100 percent

The Sheps Center for Health Services Research estimated that in 2005, 90.4% of children under the age 18 had health insurance coverage in Orange County, a small improvement over 2004, when the figure was estimated to be 89.6%.²³

Impact

Citizens' ability to access health insurance impacts on literally every aspect of their health and well-being. Those who use their primary care physicians know that they are often a valuable source of preventive and education services, yet those without insurance frequently delay or do not seek medical services. In addition, the uninsured are more likely to be seen in emergency departments, at which point they tend to suffer from more serious symptoms and/or conditions. As a result, the cost of their care is greater, in both the health consequences and in actual health care dollars.

Seniors are now in a better position with the implementation of Medicare Part D which was created to cover the costs of prescription medications. Those with only minimal medical insurance or the underinsured know that services to prevent or intervene with mental health or dental crises are a cost they can rarely afford.

Contributing Factors

The costs to employers of purchasing insurance for their employees, the costs to individuals of purchasing their own insurance, and the costs of co-payments, premiums, and rising deductibles – even for those with insurance – are primary reasons why people are under- or un-insured. The burden falls particularly to those who have lower incomes, who are unemployed or self-employed, who suffer from social risks such as homelessness or domestic violence, and those whose undocumented immigration status makes them ineligible for the federal benefits they might otherwise qualify for based on income levels.

Data

According to the 2005 report by the Cecil G. Sheps Center for Health Services Research at UNC Chapel Hill, Orange County ranked number two of one hundred counties for the number of residents ages 0 to 64 years with health insurance. This is a drop from number one in the state held in 2001, but an improvement over 2004, at which time the county ranked seventh in the state. Despite the fact that Orange County has more residents insured than many North Carolina counties, they still estimated there were 17,356 residents, making up 16.3% of the population of Orange County, without health insurance in 2004, and 16,104

²² County Level Estimates of the Uninsured in North Carolina, 2004 and 2005 Updates, Cecil G. Sheps Center for Health Services Research, UNC-CH

²³ Ibid

making up 15% in 2005. In 2004, the percentage of the overall state population ages 0 to 64 years that was uninsured was 19.5% versus 17.2% in 2005.²⁴

The NC Division of Medical Assistance also reports that in fiscal year 2005-2006 there were 6,793 Orange County children eligible for the Health Check Medicaid program. Of these there were 3,803 that should have received a screening or annual evaluation and of these, 2,985 did receive screening. The participation ratio was therefore 78.5, which is very good and higher than the state participation ration of 72.65.

In Fiscal Year 2005, there were 11,346 residents eligible for Medicaid, which equaled 9.4% of the Orange County population. The total expenditures for Medicaid in Orange County in 2005 were \$69,262,938, or \$6,105 per Medicaid- eligible individual. The expenditure per Medicaid-eligible individual in Orange County is significantly higher than the state average of \$4,836 per individual.

In the summer of 2005, Central Carolina HealthNet (CCHN) was formed in collaboration with the health departments, hospitals, the Department of Social Services, private practices and federal qualified health centers in Alamance, Caswell, Chatham and Orange counties to provide case management for Carolina Access patients (the managed care program for Medicaid recipients). Although pediatric practices had been receiving case management services for a number of years, the formation of the network offered case management to all Carolina Access patients. Thirteen practices, including the health department in Orange County, are enrolled in CCHN and they serve 6,373 Carolina Access patients.

In February 2007, there were 8,612 Orange County residents eligible for the Medicaid program. Of that total, 7,944 were eligible for the Carolina Access program but less than 60% of this group had enrolled in the program.²⁵

Resources

North Carolina Medicaid provides insurance coverage for low-income individuals who meet eligibility requirements and is the second largest single line item in the state budget. There are several different programs under Medicaid, and the income requirements vary; all Medicaid recipients must either be citizens or legal residents of the United States, thereby eliminating undocumented workers from Medicaid coverage. The only exception to this rule is “emergency Medicaid” for which undocumented individuals may qualify. Many of the births in North Carolina are paid for by Medicaid.

Medicaid for Infants and Children covers the majority of recipients, and the income requirements vary, depending on the age of the children in the household. The limits range from 100% of the Federal Poverty Level (FPL) for children ages 6 to 18, or up to 200% of the FPL for children under age 6. For individuals receiving Medicaid in the Aged, Blind, or Disabled category, they must be at or below 100% of the FPL.

Children receiving Medicaid—anyone under age 21—are also eligible for the Health Check program, which encourages regular preventive health care with a primary care provider. Orange County employs one Health Check Coordinator who works to reduce barriers to care and assist families to enroll in the programs, encouraging the appropriate health screenings

²⁴ County Level Estimates of the Uninsured in North Carolina, 2004 and 2005 Updates, Cecil G. Sheps Center for Health Services Research, UNC-CH

²⁵ NC Medicaid Carolina Access Statewide Enrollment Report, Feb 2007

and immunizations. (See figures in above data section in regards to Health Check). Despite concerted outreach efforts, the coordinators are concerned that families that are eligible for Health Check and Health Choice are still not aware of the availability of these insurance programs and are working with the UNC SHOUT (Student Health OUTreach) group and the Triangle United Way Orange Health Community Care Team to expand outreach efforts in Orange County.

North Carolina Health Choice is a program for children ages 6 to 19 years whose families do not qualify financially for Medicaid, but who also cannot afford private health insurance. The coverage is the same as for children of state employees, but without the high deductibles. The income eligibility is for families earning 150 to 200% of the FPL. There are some costs for the health coverage, depending on the income of the family; the costs cannot exceed 5% of the family's income, according to federal law. In January 2007, there were 544 children enrolled in Health Choice out of the 823 eligible.

Carolina Access is managed care for Medicaid recipients. Carolina Access provides the majority of Medicaid recipients with a medical home and a primary care provider who coordinates medical care for the recipient. Additionally, Carolina Access recipients are eligible for case management services, which are provided by Central Carolina HealthNet (CCHN) based in Orange County. The case management in Orange County focuses on disease specific initiatives, such as diabetes and asthma, as well as those who inappropriately utilize the emergency department. Providers in Orange County are caring for 6,373 Carolina Access Medicaid recipients.

The Baby Love Program is another important resource for pregnant women receiving Medicaid. The program enables pregnant women to receive Medicaid whose income is at or below 185% of the FPL. Additionally, women in this program receive extensive case management and targeted education in order to reduce the infant mortality rate.

Residents fall into five categories regarding access to health insurance. These categories include:

- 1) Private purchase or employer based plans (including Champus/Tricare for the military) typically include co-pays, deductibles and sometimes premiums for which the recipient is responsible. Due to the escalating costs of health care, the portion paid by the individual may often increase annually. The co-pays and deductibles can be a hardship for the individual experiencing expensive health problems.

Sixty-one percent of North Carolinians under age 65 are receiving coverage through employer-sponsored plans. Although employers are the greatest source for health insurance, employer sponsored insurance has declined 9% since 2000.²⁶

- 2) Private or employer based "catastrophic" (major illness or injury policies) plans which do not include preventive care and require residents to pay out-of-pocket for preventive care, e.g. physicals. Consequently, some people will delay or not get needed care because the cost is prohibitive. These individuals are considered "underinsured." In addition, this group of people will typically not have coverage for dental, vision or mental health services.

²⁶ Personal communication from Laurie Robbins, Senior Strategic Advisor, Blue Cross Blue Shield of NC, May 2007.

- 3) The federal Medicare program covers people 65 years or older, or those under 65 years with certain disabilities, and those at any age with end-stage renal disease. Medicare-only recipients are responsible for a portion of their health care costs. Some individuals have supplemental plans to cover this portion. Others are challenged with paying their portion of health care costs which can influence whether they delay or not seek services. The new Medicare Part D (prescription drug coverage) plan went into effect in January 2006 to cover a portion of prescription costs.
- 4) The federal, state and county funded Medicaid program provides coverage to the indigent and disabled population. Approximately 75% of recipients are children. The primary challenge faced by Medicaid recipients is finding a provider, especially for dental services, who will accept Medicaid. In addition, many Medicaid recipients do not have dependable transportation which can be a barrier to accessing care. "Dual eligibles" are individuals covered by both Medicare and Medicaid.
- 5) The last, but not least group, are the individuals with no health insurance. There are approximately 16,104 people in Orange County without health insurance. These individuals have limited choices for receiving health care. Piedmont Health Services (PHS), a federally qualified health center, receives federal funding to provide care to the uninsured. They offer a sliding fee scale based on an individual's income to create a fee structure. Fifty percent of PHS patients are uninsured. Uninsured patients also receive care from private providers, the health department, SHAC (student staffed health center in Carrboro) and UNC affiliated practices and the Emergency room.

The UNC Emergency Room is overburdened by patients who use the services inappropriately. The patients may not have a medical home, choose to use the ER as their primary care provider, be referred by their provider or school nurse or are often unwilling to wait to be scheduled in at their provider's office. The decision to use the ER is motivated by many different rationales. The cost of care, proximity, lack of awareness of after hours call service at their health center, perception of better services at the ER, not understanding when a health issue is better managed by the primary care physician, and availability of prescriptions are just a few of the reasons reported by ER users. (Surveys were conducted in February 2007 by Central Carolina HealthNet of people using the UNC ER. The surveys were conducted to better understand why patients used the ER for non-emergent situations.) Cost data on ER use could not be found.

Disparities

The 2005 BRFSS reported 42.6% of the uninsured were minorities, as compared to only 7.1% of whites. In addition, people with lower incomes, less education and those between the ages of 18 to 44 years were all more likely to be uninsured than their counterparts.²⁷ Although we do not have county level data regarding health insurance coverage specifically for African American residents, we do have state level BRFSS data. According to the 2006 BRFSS, 23.7% of African Americans in North Carolina answered "No" to the question, "Do you have any kind of health care coverage, including health insurance, prepaid plans such as HMOs, or government plans such as Medicare?" By contrast, the percentage of white North Carolinians who answered "No" to this question was 13.7%, a disparity of 10%.²⁸

²⁷ 2005 BRFSS Survey Results: Orange County, NC State Center for Health Statistics.

²⁸ 2005 BRFSS Survey Results: North Carolina Statewide, NC State Center for Health Statistics.

As stated, BRFSS data only categorizes race by white and other, but anecdotal information from community workers report the Latino population has much higher rates of no insurance, no medical home and not seeking health services because of the cost than other minority members of the community.

The NC Latino Health Report 2003, written by the NC Institute on Medicine in collaboration with El Pueblo, Inc. further supports the position that Latinos appear to have a unique disadvantage in terms of health insurance access.

“Nationally and in North Carolina, a greater percentage of Latinos are uninsured compared to other racial and ethnic groups. Latinos are more likely to work for small employers or in industries that do not offer health insurance coverage to employees. In addition, because many Latinos are recent immigrants, they are unable to qualify for public insurance. Latinos who work in the agricultural industry face another problem – under North Carolina laws, many agricultural workers lack workers’ compensation protection which could also be used to help pay for medical expenses if hurt on the job.”²⁹

These findings are echoed on the local level by smaller scale studies. Action Oriented Community Diagnosis projects carried out by UNC Masters of Public Health students in 2003 and 2005 focused on the Latino community in the southern and northern parts of Orange County respectively. These participatory community assessments utilized focus groups and surveys, and found that the cost of health care and the lack of access to health insurance are of concern in this community. The 2005 assessment in the northern part of the county had as two of its main themes/findings: 1) “Many Latinos have low-paying jobs that do not provide adequate benefits and protections” and 2) “Not having documentation papers is a barrier to accessing services and is a source of fear and stress for many Latinos.”

Lack of health care and the high cost of health care also emerged as main themes from both service providers’ and Latino community members’ perspectives during the southern Orange County study in 2003. Language and immigration status issues were themes that were overarching, affecting all other issues in some capacity.^{30,31} One UNC student’s research used a relatively small sample size to look at the experiences of undocumented Latino immigrants in Carrboro and Chapel Hill, and again, found that there are unique health insurance barriers among this population. Due to their low income, immigrants are often unable to purchase private insurance. Furthermore, their immigration status may also inhibit them and their family members from qualifying for most government sponsored health insurance plans under Medicaid.³²

There are additional issues such as fear of being a “public charge,” fear of deportation, language barriers and lack of knowledge of such governmental programs that further compound this problem.

²⁹ NC Latino Health, 2003. Durham, NC: North Carolina Institute of Medicine, February 2003, p.101.

³⁰ An Action-Oriented Community Diagnosis: A Participatory Assessment of the Latino Community of Carrboro. Department of Health Behavior and Health Education, School of Public Health, UNC Chapel Hill, May 2003, http://www.hsl.unc.edu/PHpapers/phpapers_orange.cfm

³¹ An Action-Oriented Community Diagnosis: Findings and Next Steps of Action. Department of Health Behavior and Health Education, School of Public Health, UNC Chapel Hill, May 2005, http://www.hsl.unc.edu/PHpapers/phpapers_orange.cfm

³² Robbins, P. (2005). Undocumented Immigrants and Access to Health Care: The Case of Hispanic Women in Chapel Hill and Carrboro. Student paper, Dept. of Political Science, UNC Chapel Hill.

Community Survey Results³³

The results of the 2007 Community Health Assessment Survey reflect the growing concern of residents over health insurance costs. When presented with a list of health concerns, more residents cited “lack of health insurance” as one of their top three issues than any of the other choices. By the same token, on a separate question about social concerns, “affordable health care access” was the issue most frequently selected. See the graphs below for details.

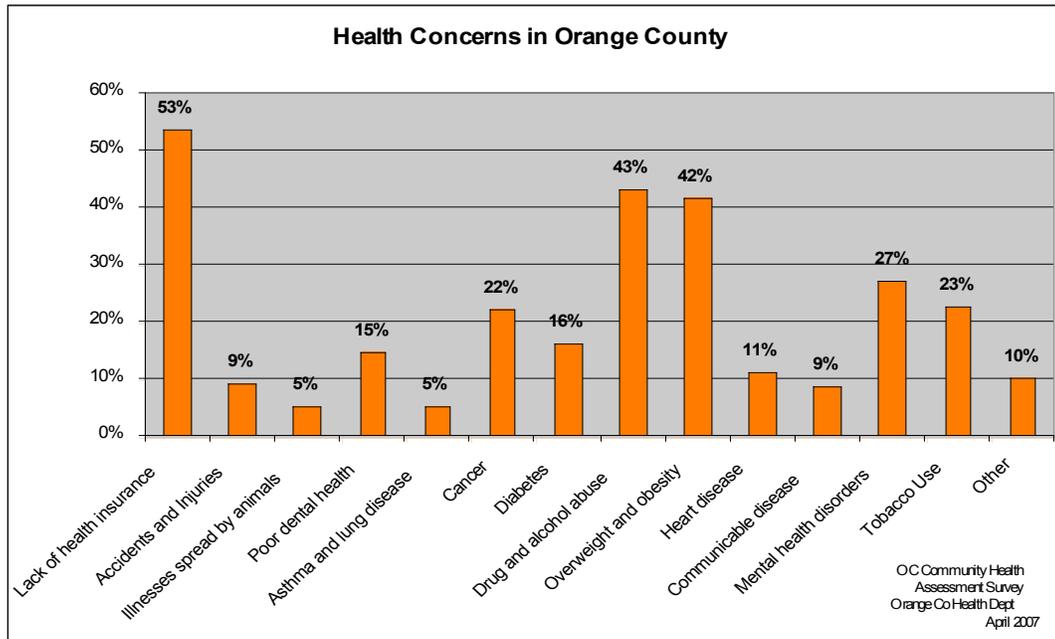


Figure 4, A-1: Responses to the survey question, “Which of these things stand out for you as important health issues in Orange County? Choose three.”

³³ These data are from the Orange County Community Health Assessment survey conducted by the Orange County Health Department, April, 2007. See appendix for survey content.

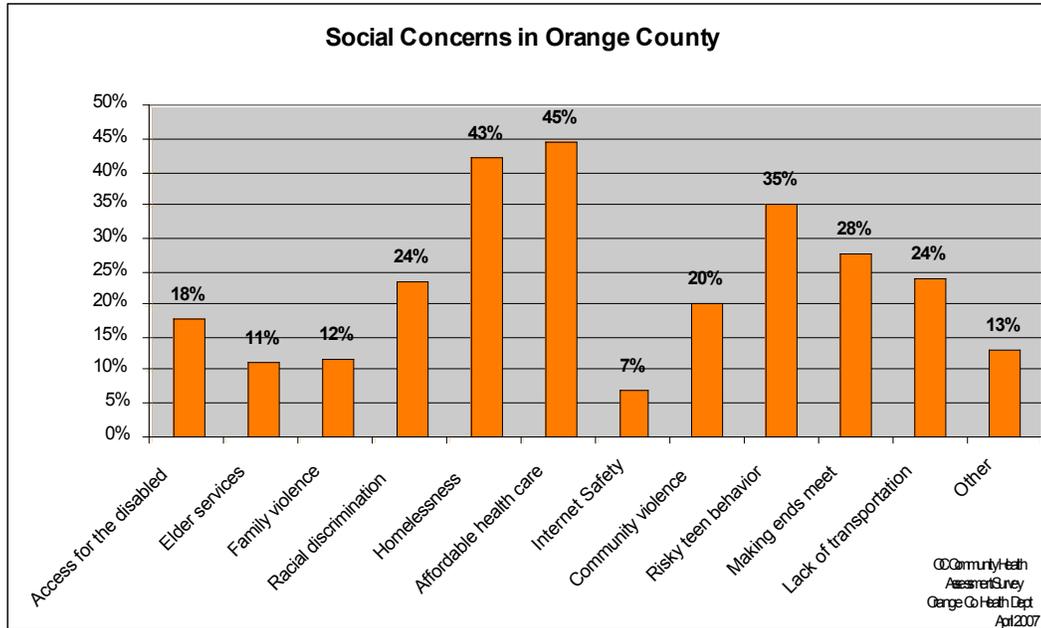


Figure 4, A-2: Responses to the survey question, “Which of these things stand out for you as important social issues in Orange County? Choose three.”

As noted above, a lack of health insurance impacts not only health itself, but also the information about health that people ordinarily receive from their doctors. Of those surveyed, 76% say they get their health information from their doctor, and this was by far the most frequently cited resource for information, followed by the internet at 60%, and family and friends at 56% and 55% respectively. Those without health insurance may lack this key link to knowledge about preventive care, lifestyle choices, nutrition, and other important topics. The vast majority of Orange County residents, however, do obtain advice and treatment from their doctors, as the graph below shows. Only 29% of those surveyed regularly go to sources other than a doctor’s office for care.

As discussed in the access to health care section below, the uninsured also have significant challenges when faced with the high cost of purchasing prescription drugs. Additionally, the uninsured have more barriers to accessing dental care and mental health treatments. Both of which were cited as concerns among residents. See Chapter 8: Oral Health and Chapter 10: Mental Health for more information on these topics.

Gaps and Unmet Needs

It is important to note that while the very poor, children, the elderly, and the disabled are offered some form of health insurance through federal and state programs that are not tied to their employment status, many Orange County residents, namely the working poor, “fall through the cracks” because they do not qualify financially for the state programs and are unable to afford private health insurance. There are many employees of UNC who cannot afford the insurance premiums to cover their dependents, thereby creating the largest group of uninsured in Orange County.

Thirty percent of the working population in North Carolina works in a small firm with less than 25 employees.³⁴ Employees in small firms have a much lower rate of coverage of employer-sponsored insurance, at 51% covered compared to 89% of workers at larger firms.

Purchasing health insurance coverage in the private market without employer involvement can be unaffordable to many. For example, the cost of a \$2500 deductible Blue Cross Blue Shield of North Carolina's non-employer plan for a family of four averages \$600 per month.³⁵

As employers face increasing costs of offering health insurance, they are in some cases passing greater premiums and cost sharing on to employees. In addition, some employers are shifting more of the cost for family coverage onto their employees rather than increasing the contribution for individual worker coverage. This places an increasing financial burden on families who must either pay more for dependent coverage or go without health insurance.³⁶

As the inability to afford health insurance increases, new types of health insurance coverage have gained some popularity. Consumer-driven health plans, for example, Health Savings Accounts, are health insurance products that are designed in such a way to encourage consumer accountability in the decision to use health care services. These plans feature high deductibles coupled with catastrophic protection and tax-preferred savings accounts for health care needs.

In addition, limited benefit plans are being marketed more significantly than in years past. These plans can vary from disease-specific coverage (such as cancer-only) to fixed-benefit plan that offer a certain amount of payment per day in the hospital, or per doctor's visit, or surgery. While these plans do provide some form of coverage, significant shifts to them away from more comprehensive plans could contribute to an under-insurance concern.

Furthermore, those immigrant families who would otherwise be eligible for Medicaid based on their income, but whose children are not here with legal documentation, appear to have no accessible options for insurance except in cases of emergency. In addition, even if an immigrant is here legally and falls within the income limits, eligibility for Medicaid and NC Health Choice is not guaranteed. Even qualified immigrants are barred from many means-tested public benefits for a certain length of time, generally for the first five years after they receive their green cards.³⁷

Uninsured residents needing dental and mental health services are challenged to find affordable care. The availability of dental services through Piedmont Health Services and the health department are limited, so consequently many individuals may go years without seeing a dentist. For both the insured and uninsured mental health services are limited or unavailable. Medicaid provides good coverage for mental health services, while Medicare will only cover 50% of the cost.

³⁴ Holmes M. Analysis of US Census. Current Population Survey 2004-2005 (calendar years 2003-2004). Cecil G. Sheps Center for Health Service Research, The University of North Carolina at Chapel Hill, 2005.

³⁵ 2007 preferred rates, Blue Advantage \$2500 Deductible Plan A, parents age 39 and 40, Orange County. Rates vary by age, health status, plan design, and county, BCBSNC website.

³⁶ Health Insurance Data Briefs #4: Access to Employer-Provided Health Insurance as a Dependent on a Family Member's Plan, by Heather Boushey and Joseph Wright, April 13, 2004.

³⁷ NC Latino Health, 2003. Durham, NC: North Carolina Institute of Medicine, February 2003, p.101, <http://www.nciom.org/projects/latino/latinopub/C7.pdf>.

Emerging Issues

As we see an increase in the number of uninsured in the County, the limitations of the current health care system are evident. Although we are fortunate to have a federally-funded health care center with sliding scale fees, a county health department and student run free clinic available, these services are becoming overburdened by the demand (50% of Piedmont Health Services patients are uninsured.) The Action Oriented Community Diagnosis documents (2003, 2005) allude to some of these issues with a few respondent complaints around lack of options of places to go and long waiting lists. The strain that the under and uninsured place on all the health-related resources in this community is reaching a breaking point.

The issues of cost and inaccessible/inadequate health insurance coverage directly affect other health care disparities (e.g., lack of a medical home/personal doctor, low utilization of preventive care services), and ultimately contribute to very serious health disparities. If current trends continue, we are likely to see more immigrants in this area, struggling to work and stay healthy, and more profound health disparities appearing over time for Latinos as they acculturate to the U.S. lifestyle.

B) Access to Health Care

Healthy Carolinians Objectives for health care provision are:

Increase the number of primary health care physicians in all areas of North Carolina

In 2005, there were 33.7 primary care physicians per 10,000 residents in Orange County and only 8.8 per 10,000 statewide.³⁸

Increase the number of minority and ethnic physicians in the workforce

In 2005 almost 16% of physicians in practice in Orange County were minority or Hispanic.³⁹ Up 1% since 2002.

Increase the number of dentists who accept Medicaid payments for services

There are currently 4 public private dentist and 4 public institutions who accept Medicaid in Orange County. See Chapter 8: Oral Health for additional details.

Increase access to medications for Medicare recipients

Medicare Part D was implemented in January 2006, and seniors were given the opportunity to purchase a medication plan of their choice to cover medication costs. Part D has a number of limitations, though, including using in-network pharmacies, deductibles, formularies, co-pays and a "donut hole" where the patient can be responsible for up to \$3,850 out-of-pocket. Assistance to cover the cost of purchasing a Part D plan is available based on income and assets. Although Medicare Part D was intended to reduce the burden on seniors, it is not the panacea it was painted to be.

Impact

Affordable access to health care was the leading social concern in the 2007 Community Survey (see below under Community Survey Results section). An inability to access the healthcare system in a timely and affordable manner affects all levels of health prevention and intervention. Many who do not access preventive care when they are healthy avoid

³⁸ UNC Sheps Center for Health Research, 2005 Health Professions Data report, <http://www.shepscenter.unc.edu/hp/prof05.htm>

³⁹ Personal Communication, Mary Fraser, Research Consultant, UNC Sheps Center for Health Research, May 2007

doing so because they either do not know where to get help that is affordable, or because they are frustrated by or afraid of a system that seems inefficient and impersonal in many ways. These are the same people who wait until they are very ill to access medical services, only to place a greater burden on all of our health-related resources.

Contributing Factors

A lack of health insurance and the high cost of health care are the most significant barriers to those seeking access to care. There are other, less tangible, factors as well. Residents have often expressed confusion over where and how to get access to care as well as a sense of intimidation when attempting to use available services. In particular, residents from the Northern part of the county, ethnic minorities, and people with Medicaid feel that the healthcare system is not a welcoming environment for them. Although there are increasing numbers of Spanish speaking providers, language barriers remain an obstacle to non-English speaking residents. Finally, transportation to services is a challenge, particularly for residents in more rural sections of the county.

Data

In 2005 the Cecil G. Sheps Center for Health Services reported there were a total of 1,134 physicians practicing in Orange County, a number that included 413 primary care physicians and 721 specialists. This number equals 92.7 physicians per 10,000 population compared to only 20.7 physicians per 10,000 people statewide. There were 33.7 primary care physicians per 10,000 residents in Orange County and only 8.8 per 10,000 statewide. Orange County also boasted 145 dentists, 79 dental hygienists, 2,613 registered nurses and 164 LPN's in 2005. The Sheps Center also counted 741 other health professionals practicing in Orange County, a number that included pharmacists, physical therapists, optometrists and psychologists among others.⁴⁰

It is important to note that UNC Health Care Systems employs many of these health professionals. While Orange County residents have access to UNC Health Care Systems, UNC also serves the entire state of North Carolina, so the large number of physicians and health care providers here can be misleading in terms of access for Orange County residents. Orange County residents do not observe county borders when seeking care; many residents receive services in adjoining counties. In addition, many residents of other counties come to Orange County providers to receive their services. Piedmont Health Services reports that they serve patients from 14 different counties.

In terms of minority physicians in practice, in 2005 approximately 16% of the 1,135 physicians practicing in Orange County were non-white. Specifically, 3.8% were African-American, 0.44% American Indian, 7.6% Asian, 1.9% Hispanic and 2.5% were of another race/ethnic group. These percentages have not changed significantly since 2002. Nor has the percentage of RNs from minority groups changed significantly from 2002 to 2005, holding steady at about 16%. Of the 2,613 RN's practicing in Orange County in 2005, 8.5% were African-American, 0.23% were American Indian, 0.8% Hispanic, 5.7% Asian, and 1.5% represented another racial group.⁴¹

⁴⁰ UNC Sheps Center for Health Research, 2005 Health Professions Data report, <http://www.shepscenter.unc.edu/hp/prof05.htm>

⁴¹ Personal Communication, Mary Fraser, Research Consultant, UNC Sheps Center for Health Research, May 2007

According to the 2006 BRFSS, only 13.3% of Orange County residents stated there was a time in the past 12 months when they needed medical care, but could not get it due to cost. This is compared to a 16% average statewide. The same question in 2005 indicated that only 12.1% of Orange County residents were unable to get care due to cost compared with a 15.6% statewide.⁴²

During FY '06, The UNC Hospitals Emergency Department (ED) had 4 areas; the Main ED, Fast Track, Pediatric ED and Urgent Care. These four areas had 63,951 total patient visits from June 2005 through June 2006, of which over 50% were from other counties. Data from UNC Hospitals reveals that many Orange County residents visit the ED for conditions that may not be true emergencies. Of these visits by Orange County residents to all four areas of the ED, 30% were classified as triage category 4 defined as "*Conditions that have low potential for deterioration or complications, which require low resource intensity.*" Another 8% were classified as triage category 5 defined as "*Conditions that are very unlikely to progress in severity or result in complications, which require minimal resource intensity.*" This data would suggest that Orange County residents are visiting the ED for less severe medical conditions and especially may visit the ED during nighttime hours due to a lack of other resources in the community during these hours.

A major factor that came up in the community assessment is the issue of lack of insurance and many people said they would use the ED because they did not have insurance. Of Orange County residents who visited the UNC ED last year, 19.41% were self pay, 20.74% were on Medicaid, 21.99% were on Medicare, and the remaining 37.87% of patients were on some other type of health insurance.⁴³ As the Sheps Center data shows that 15% of Orange County residents are uninsured, this higher rate of uninsured patients in the ED would tend to support the theory that people without insurance may use the ED with greater frequency than those who are insured.⁴⁴

UNC Physicians and Associates (P&A) saw 37,453 patients from Orange County in fiscal year 2005-2006, which made up 22% of all patients seen by UNC P&A. This number includes all in and outpatients and ED patients. There were 35,038 inpatient discharges from UNC Hospitals in fiscal year 2006 including newborns.

Please see the section below on resources for additional clients seen in various clinic settings in Orange County.

Disparities

Of Orange County residents that stated there was a time in the past 12 months when they needed medical care, but could not get it due to cost, minorities were more likely to answer in the affirmative, with 30.5% of minority respondents saying they could not afford to get care compared to only 8.7% of white respondents. This rate went up from 28.5% and 7.6% respectively in 2005.⁴⁵

⁴² 2006 BRFSS Survey Results: Orange County, NC State Center for Health Statistics, <http://www.schs.state.nc.us/SCHS/brfss/2006/oran/topics.html#hca>

⁴³ Personal communication from Dee Jay Zerman, Associate Director of Planning, UNC Hospitals

⁴⁴ County Level Estimates of the Uninsured in North Carolina, 2005 Updates, Cecil G. Sheps Center for Health Services Research, UNC-CH, <http://www.shepscenter.unc.edu/>

⁴⁵ 2006 BRFSS Survey Results: Orange County, NC State Center for Health Statistics, <http://www.schs.state.nc.us/SCHS/brfss/2006/oran/topics.html#hca>

Traditionally, those with Medicaid or without insurance have expressed the belief that they were treated less well than others in healthcare settings. Residents from non-majority racial and cultural backgrounds have often cited their experience that members of their communities believe that they receive lower quality health care than those from white communities. Studies have shown that even after accounting for age, gender, health insurance, socioeconomic status and all other factors, members of racial and ethnic minorities still experience discrimination in access to health care services.⁴⁶ The disparities that exist in all areas of chronic disease between white and minorities are affected by this fact.

Finally, there are still disparities in the availability of care available to those living in the Northern part of the county, which is a much more rural area. Lack of transportation is an ongoing issue which serves as a contributing factor to this perception.

While some of the disparities listed above are also true for Latinos, there are additional disparities that are unique to Latinos. The NC Latino Health Report 2003 cites various barriers to care including language difficulties, lack of health insurance, low income, cultural differences in health care and lack of health literacy as significant barriers to care for Latinos in the state. Because many Latinos are recent immigrants, language barriers and cultural differences are of top concern. "Lack of 'health literacy' causes additional communication barriers between Latinos and their health care providers...While the problem of health literacy is not unique to the Latino population, it is particularly acute for many Latinos because of their communication barriers, different understanding of the underlying factors that affect health, and lack of awareness of the US health care system."⁴⁷ In addition, provider bias and patient participation together can serve as another barrier to accessible and appropriate service provision, as stated previously in reference to the IOM report on "Unequal Treatment."

The issues raised by the NC Latino Health Report are reflected in local data collected through various Community Diagnosis projects carried out by the UNC Health Behavior and Health Education student teams.

As discussed in the last section, cost and lack of insurance are huge barriers for this population. This is particularly true for dental care. The 2003 southern Orange County Community Diagnosis with the Latino Community revealed lack of access to dental care as one of the primary concerns. "When discussing lack of access to dental care, community members noted that few dentists accept Medicaid and that there is a general need for more dentists who serve adults as well as children. Some recognized that the Orange County Health Department does offer dental services, but observed that people often have to wait months for an appointment. "Lack of access to dental care also emerged from discussions with service providers as key health issues for Latinos in Carrboro."⁴⁸ The need for more affordable dental services" was also a theme that emerged from the service provider and community member data that was collected in the northern Orange County assessment

⁴⁶ Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care, Institute of Medicine, March, 2002, <http://www.iom.edu/CMS/3740/4475.aspx>

⁴⁷ The Latino Community of Carrboro, Orange County, NC (2003), pg. xxi, http://www.hsl.unc.edu/PHPapers/phpapers_orange.cfm

⁴⁸ Ibid, pg 29-30

in 2005.⁴⁹ Community members specifically mentioned transportation and schedule of dental clinics and services as a barrier, as many parents work long hours and on Saturdays.⁵⁰

Lack of information about services was an area of particular concern in the Community Diagnosis studies. Although many agencies such as the Orange County Health Department's Medical and Dental Clinics in Hillsborough and Piedmont Health's Prospect Hill Community Health Center have been serving an increasing number of Latinos in northern Orange County, the 2005 Community Diagnosis in northern Orange County with Latinos revealed an underutilization of services by Latinos due to "socio-cultural issues (such as) lack of knowledge of services, difficulty with acculturation process, lack of transportation, limited bilingual service providers, social/economic circumstances, or fear of being reported to US Citizenship and Immigration Services. Legal issues include documentation and permanent residency."⁵¹ While outreach programs like the Migrant Health Outreach Workers at the Prospect Hill Community Health Center and the Orange County Health Department's Latino Health Promoter trainings have been successful in connecting Latino residents to information and services, barriers to services still surfaced as concerns in the findings. As some respondents pointed out, there is no central place in central or northern Orange County for Latino residents to get information or orientation in Spanish. El Centro Latino is the only such place in the county and is located in Carrboro.

Linguistically and culturally accessible care is an issue that also arose in the Community Diagnosis projects, with a major finding in 2005: "There is a need for more culturally and linguistically competent service providers."⁵² Fortunately there have been some improvements in this area with the opening of a Latino Mental Health Agency in Carrboro, NC, called El Futuro, which has bilingual/bicultural staff that provide accessible and appropriate care to the Latino immigrant community. Many agencies have improved their interpretation and translation services to fall in line with Title VI requirements, and have professional opportunities for language and cultural learning; UNC offers a variety of types of training for their health professions students so that they are more prepared to work with a diverse population. However, there are still gaps in local medical and dental agencies which affect the linguistic accessibility of services for a Latino immigrant calling to make an appointment for specialized care, or for locating the appropriate place to get information about a health concern. This language issue is critical, as mentioned above, affecting health care access at all levels--from adequately navigating the health care system to having a meaningful conversation with a health care professional that results in quality care.

Another less obvious, but still important issue that surfaced through the Latino Community Diagnosis projects was that men were often underserved. As many programs and resources focus on women and children, men, particularly minority men, face barriers to service. The 2003 study revealed a need for more sexually transmitted disease information to Latino men. The 2005 Diagnosis had as one of its main findings that many Latino men do not utilize social and health services. This issue also arose when discussing dental resources in the county.

⁴⁹ Northern Orange Latino Community, An Action-Oriented Community Diagnosis, Orange County (2005), pg. 26, http://www.hsl.unc.edu/PHPapers/phpapers_orange.cfm

⁵⁰ Ibid, pg. 115

⁵¹ Ibid pg. 16-17

⁵² Ibid pg 25

Community Survey Results⁵³

The results of the 2007 Community Health Assessment Survey reflect the concern of residents over access to health care. When presented with a list of social concerns, more residents cited “affordable health care access” as one of their top three issues than any of the other choices. In a similar vein, on a separate question about health concerns, “lack of health insurance” was the issue most frequently selected. Note also the relatively high ranking of “lack of transportation” as a social concern, which is, in all probability, related to the concern over transportation as mentioned elsewhere in this chapter. See the Figures 4, A-1 and Figure 4, A-2 above for details.

As noted above, even those eligible for Medicare Part D coverage find that they may still have significant out of pocket expenses. There were two questions on the community survey that dealt with this issue. Disturbingly, 14% of those surveyed answered “yes” to the question, “In the past 12 months, did you delay or not fill a prescription you needed due to cost?” and 5% indicated they had split pills to stretch their medication.

Information is also a part of access to health services. One of the survey questions was aimed at determining where county residents get their information. As the figure below demonstrates, most still rely on their doctors for health information. It also shows how much people have come to rely on the internet as a source as well.

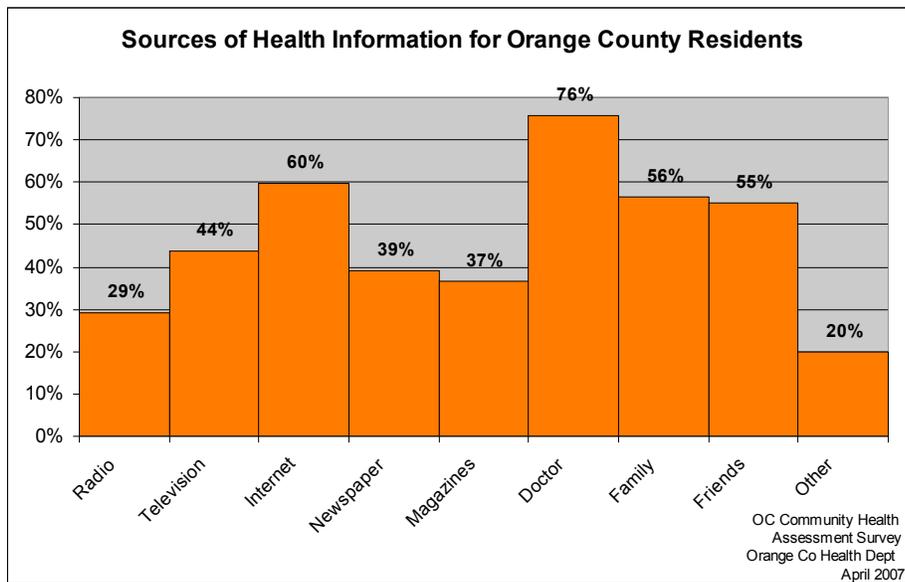


Figure 4, B-1: Responses to the survey question, “Where do you get information about health? Tell me all that apply.”

The following two graphs show where Orange County residents go to get health care as well as how they pay for that care.

⁵³ These data are from the Orange County Community Health Assessment survey conducted by the Orange County Health Department, April, 2007. See appendix for survey content.

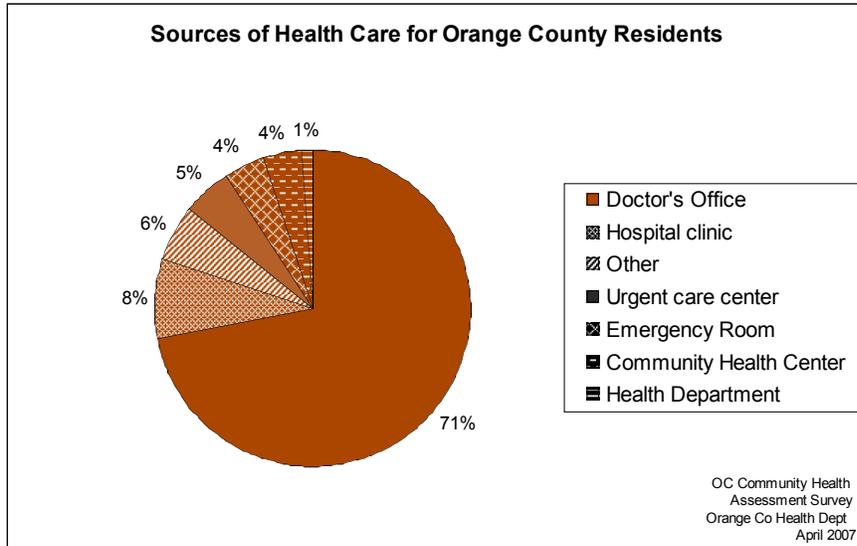


Figure 4, B-2: Responses to the survey question, “Where do you go most often when you are sick or need advice about your health? Please choose only one.”

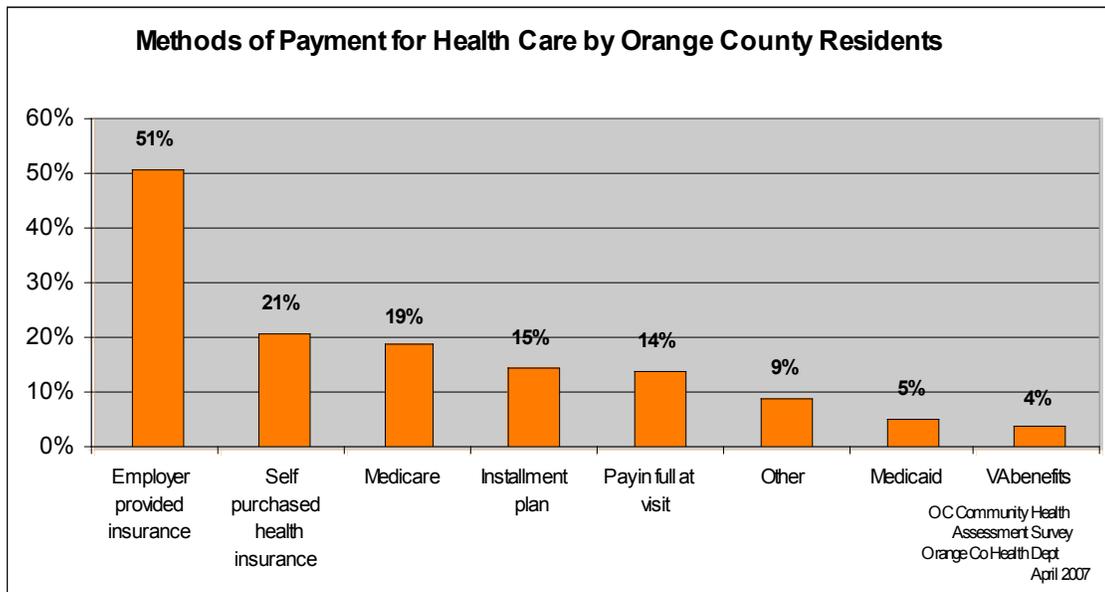


Figure 4, B-3: Responses to the survey question, “How do you pay for healthcare when you go to the doctor or emergency room? Tell me all that apply.”

Again, as noted elsewhere in this chapter, accessing dental care and mental health treatment are also a concern and were addressed as part of the survey. See Chapter 8: Oral Health and Chapter 10: Mental Health for additional information on these topics.

Resources

UNC Health Care has several financial assistance programs available for people without insurance. First, UNC can place individuals on a payment plan without interest. For others, UNC may provide a 25% discount on medically necessary services. Finally, there is the Charity Care Program which provides relief of most financial debts to UNC Hospitals for people who earn up to 250% of the Federal Poverty Level (FPL). There is also Pharmacy

Assistance for people earning up to 200% of the FPL, whereby participants are asked to pay a \$2 or \$4 co-pay per prescription.⁵⁴

The Orange County Health Department also offers two dental clinics, one in each location. The UNC School of Dentistry also provides services on a sliding fee scale but is unable to accommodate all of those in need of low cost dental services. The Student Health Action Coalition (SHAC) also offers a dental clinic through the Health Department in Carrboro where they see an average of 7 to 10 patients every Tuesday and/or Wednesday night. In addition, Piedmont Health Services in Carrboro has a dental clinic and has one dentist on staff. See the Chapter 8: Oral Health for additional information.

Orange County has many health care providers practicing in our County, in addition to UNC Healthcare. There are two health department medical clinics, one in Chapel Hill and one in Hillsborough. Piedmont Health Services (PHS) has a primary care clinic located in Carrboro that served approximately 6,800 patients from Orange County during 2006. There is also a PHS clinic in Prospect Hill that serves residents in the northern part of the county. Both the Health Department and Piedmont Clinics serve predominantly low-income residents on a sliding fee scale. SHAC also provides a free medical clinic on Wednesday evenings at the PHS Carrboro office. SHAC had over 1,000 patient encounters in 2006, serving an average of 23 patients per clinic. SHAC also added twice monthly free Dermatology clinics, which are held in the PHS Carrboro office on the first and third Wednesday of each month, and serve between 10 and 20 patients per clinic. The SHAC clinic does not provide continuous care or management of chronic health issues, and does not provide any kind of specialty care. The interdisciplinary student teams of "Mobile SHAC" are currently serving 13 homebound senior citizens through once monthly visits. The UNC Student Health Service also sees a large number of students for primary care, predominately those students who are single and live on campus.

In terms of access to health information, the Triangle United Way operates the bilingual 211 Resource Information line 24 hours a day. They have a database with all human services agencies in the Triangle region. Callers can ask about and receive information on a variety of services, or the database can be accessed on-line. During calendar year 2006, the 211 information line fielded 407 calls from Orange County residents. Of the total number, 76 callers were Hispanic-Latino.⁵⁵

Gaps and Unmet Needs

As noted above, transportation is one of the most significant barriers to accessing health care. The public transit system and specialty buses are inadequate to meet the needs of the patients.

Nationally, as well as locally, the lack of health insurance has a profound impact on health care service utilization. Individuals may not be able to get care, choose not to seek care, use the emergency room for non-emergent care and may be non-compliant in their medication therapy.

⁵⁴ 2006 UNC Health Care System Policies and Procedures: Patient Financial Assistance, 2006.

⁵⁵ Personal communication from Suzanne Deobald, Community Impact Manager, Triangle United Way, May, 2007

Emerging Issues

As our population becomes more diverse culturally, our healthcare services must adapt to meet the needs of our newest residents, without alienating long-time residents. Specifically we must adapt to the cultural and linguistic changes within our community and prepare ourselves with the necessary skills and knowledge base so that we may appropriately serve all residents. As mentioned in the previous section, we must also pay close attention to our growing Latino immigrant population and be ready for the inevitable changes in our community that will occur as new first generation immigrants arrive here and second generation immigrants grow up and become adults and parents here. We must keep in mind that although Latinos are disproportionately likely to live in poverty and are more likely to go without health care. Despite these problems, Latinos in the state, especially recent immigrants, are relatively healthy as compared to whites or African-Americans. But as Latinos acculturate to the US lifestyle, their health status worsens. Thus, the future health issues confronting the Latino population are likely to be more similar to those of the majority population of our state and will challenge and affect our health care system in turn.

In addition, the arrival of other immigrant and refugee groups, such as the Burmese and Karen refugees in the Carrboro/Chapel Hill area signal to us our need to adapt to the notion of a multilingual county, and not assume that “bilingual” and “bicultural” means Spanish/English and Latino/Anglo, respectively.

All residents must be made to feel welcome and encouraged to access the preventive services available, so that what may begin as a minor health concern does not become a major burden on their health, their families, and all of our healthcare systems.

C) Economic Issues

C1) Income and Poverty

Healthy Carolinians 2010 Objectives for income and poverty

Eliminate income inequalities among different segments of the population and ensure that all communities have a healthy, viable and sustainable economy and individual members have the opportunity to participate fully in work and production

Impact

The poverty rate in the U.S. has increased steadily over the last few years. According to an article in the American Journal of Preventive Medicine, the poverty rate dropped in the 1990's; however, in 2000 it was 11.3%, and it rose to 12.7% in 2004.⁵⁶ By the end of 2006, that figure had risen to 13.3%.⁵⁷ Moreover, the number of Americans living in severe poverty, defined as living on less than 50% of the income designated as the poverty line, has dramatically increased over time. As many as 15.6 million people met this criterion by 2005. Children are particularly hard hit; an estimated one in three people in severe poverty is a child.⁵⁸

⁵⁶ The Rising Prevalence of Severe Poverty in America: A Growing Threat to Public Health, S. Woolf, MD, R. Johnson, PhD, J. Geiger, MD, MS, Am J Prev Med 2006; 31(4), p. 332

⁵⁷ 2006 American Community Survey, American FactFinder, US Census Bureau, http://factfinder.census.gov/servlet/STGeoSearchByListServlet?ds_name=ACS_2006_EST_G00_&lang=en&ts

⁵⁸ The Rising Prevalence of Severe Poverty in America: A Growing Threat to Public Health, S. Woolf, MD, R. Johnson, PhD, J. Geiger, MD, MS, Am J Prev Med 2006; 31(4), p. 338

A lack of sufficient income is one of the most significant correlates of poor health. Poverty is linked to severe chronic disease, mental illness and early death. In general, the poor, whether employed or not, are unable to afford health care services or the health insurance needed to pay for those services. They live in substandard housing with often dangerous environmental conditions, where the built environment is not conducive to walking, and where there are few if any grocery stores offering healthy options. Individuals with no health insurance tend to delay treatment until the condition is severe. “For these various reasons, the poor on average receive inferior health care, have worse health status, and require greater use of resources. Emergency department visits and the length of hospital stays among the poor are more than twice those of the general population.”⁵⁹

Those who lack education are also much more likely to face challenges in meeting their basic needs. Additionally, those who are homeless face such a myriad of challenges in re-establishing an economic foothold in society that they often remain impoverished for long periods of time.

Contributing Factors

Political decisions and societal factors have a significant impact on the conditions of the lives of poor Americans. As the abovementioned article concludes, “The growth in the number of Americans living in poverty calls for the re-examination of policies enacted in recent years to foster economic progress.”⁶⁰ As more and more people slip into poverty, there are fewer home-grown human resources to power the U.S. economy and take us into the future. Not only are resources diverted elsewhere to secure talent, they are also siphoned off to deal with the costs of public assistance, crime and the skyrocketing price tag associated with indigent medical care for the chronically ill poor.

Data

The poverty guidelines are a version of the federal poverty measure. The guidelines are a simplification of the poverty thresholds for use for administrative purposes - for instance, determining financial eligibility for certain federal programs. Programs using the guidelines in determining eligibility include Head Start, the Food Stamp Program, the National School Lunch Program, the Low-Income Home Energy Assistance Program, and the Children’s Health Insurance Program. Note that in general, cash public assistance programs (Temporary Assistance for Needy Families and Supplemental Security Income) do NOT use the poverty guidelines in determining eligibility. The Earned Income Tax Credit program also does NOT use the poverty guidelines to determine eligibility.⁶¹

2007 HHS Poverty Guidelines

Persons in Family or Household	48 Contiguous States and D.C.	Alaska	Hawaii
1	\$10,210	\$12,770	\$11,750
2	13,690	17,120	15,750
3	17,170	21,470	19,750
4	20,650	25,820	23,750

⁵⁹ Ibid

⁶⁰ Ibid

⁶¹ The 2007 HHS Poverty Guidelines, US Department of Health & Human Services, <http://aspe.hhs.gov/poverty/07poverty.shtml>.

5	24,130	30,170	27,750
6	27,610	34,520	31,750
7	31,090	38,870	35,750
8	34,570	43,220	39,750
For each additional person, add	3,480	4,350	4,000

Table 4, C1-1: 2007 HHS Poverty Guidelines⁶²

The 2006 average unemployment rate for Orange County was 3.3%, a rate that is quite low in comparison to that of the state and surrounding counties (see Chapter 4, C2: Employment for more detail).⁶³ Orange County is one of the most affluent counties in the state with a median family income of \$71,434 and a mean⁶⁴ family income of \$97,037. By comparison, the median and mean family incomes in Alamance and Durham counties are \$47,598 and \$56,668, and \$57,851 and \$73,938 respectively.⁶⁵

Despite this apparent affluence, 13.9% of Orange County individuals were living in poverty in 2006 (6.9% of families). Families consisting of a single female parent experience a higher incidence of poverty at 26.6%. The percentage of individuals living in poverty statewide was 14.7%, a figure very similar to that of the county. Orange County's poverty rate is higher than the US average of 13.3%.⁶⁶

In addition, there are many people who are employed at marginal wages. The federal poverty guidelines place a family of four earning \$20,650 or less per year as being in poverty (see table above). Over 19% of men and 17% of women in Orange County earned less than \$25,000 in 2006. Approximately 14% of families had income of less than \$25,000 as well.⁶⁷

In the 2005-2006 year, the Orange County Department of Social Services intake unit conducted more than 14,000 assessments for services. Almost \$8 million dollars in food stamp aid was provided to an average of 2,987 households and 6,275 individuals monthly, an increase of over 8% from the 2004-2005 fiscal year. In addition, the agency assisted 1,904 residents in paying their energy bills through the Low Income Energy Assistance Program (LIEAP).⁶⁸

Disparities

There have long been significant disparities between men and women when it comes to wages. While 51.3% of Orange County males who worked full time in 2006 earned over

⁶²*Federal Register*, Vol. 72, No. 15, January 24, 2007, pp. 3147–3148

⁶³ State of the Local Economy report, Orange County Economic Development Commission. Accessed March, 2007 at <http://www.co.orange.nc.us/>

⁶⁴ Mean income refers to a simple average of all income figures. Median income is the midpoint, where half the incomes are lower and half the incomes are higher than that figure.

⁶⁵ 2006 American Community Survey, American FactFinder, US Census Bureau. Accessed September 13, 2007 at http://factfinder.census.gov/servlet/STGeoSearchByListServlet?ds_name=ACS_2006_EST_G00_&lang=en&ts

⁶⁶ Ibid

⁶⁷ Ibid

⁶⁸ Orange County Department of Social Services Annual Report 2005-2006. Accessed September 13, 2007 at http://www.co.orange.nc.us/socsvcs/information_and_statistics.asp.

\$50,000, only 41.6% of women fell into that earnings level. The difference is most striking in the higher wage range. In Orange County, the number of men earning over \$100,000 per year is almost double the number of women at 24% and 12.8% respectively. Again, for those who worked full time in 2006, the mean income for men was \$78,097, but for women it was \$59,699. The median income for those men was \$51,436 and for women it was \$41,987 (see above for explanation of mean versus median figures). Even among highly educated individuals, the disparity is striking. Men with a bachelor's degree or a graduate degree earned a median wage of \$47,319 and \$91,150 respectively. Women in those same categories earned \$28,539 and \$46,705.⁶⁹ Single mothers are particularly vulnerable. As noted above, while the general poverty rate in Orange County was 13.9%, the rate for single mothers was 26.6%.

Members of minority racial and ethnic groups are more likely to be poor than other residents. There is no county level data for minority groups more recent than the 2000 Census; however the income pattern observed at the state level is comparable to Orange County. Average per capita income among whites in North Carolina in 2006 was \$26,399, while for African Americans it was \$14,954, for American Indians it was \$14,750 and for Hispanics it was \$11,773. Among employed county residents, those with the least leverage over their wages are those undocumented immigrants who fear that their illegal immigration status will be exposed if they attempt to organize for better wages.

Community Survey Results⁷⁰

The results of the 2007 Community Health Assessment survey reveal that county residents are very concerned about economic issues and the related health implications of living in, or on the edge of, poverty. When presented with a list of social concerns and asked to select their three most pressing concerns, affordable health care access was the most frequently chosen, followed by homelessness (see Chapter 4,C3: Housing & Homelessness for more detail). Making ends meet was ranked fourth, as illustrated in the graph below. On a similar list of health concerns, the most frequently selected was a lack of health insurance, with 53% indicating it was one of their top three concerns. The high cost of health care and of the health insurance to pay for that care prohibits many in our community from accessing the basic services needed to maintain good health. Often the poor will postpone a trip to the doctor until the health condition becomes serious, at which point many end up at the emergency department. In those instances, the cost, both in dollars and in human suffering, is often much greater than it would have been had the proper preventive care been made available at an affordable rate.

⁶⁹ 2006 American Community Survey, American FactFinder, US Census Bureau. Accessed September 13, 2007 at http://factfinder.census.gov/servlet/STGeoSearchByListServlet?ds_name=ACS_2006_EST_G00_&lang=en&ts

⁷⁰ These data are from the Orange County Community Health Assessment survey conducted by the Orange County Health Department, April, 2007. See appendix for survey content.

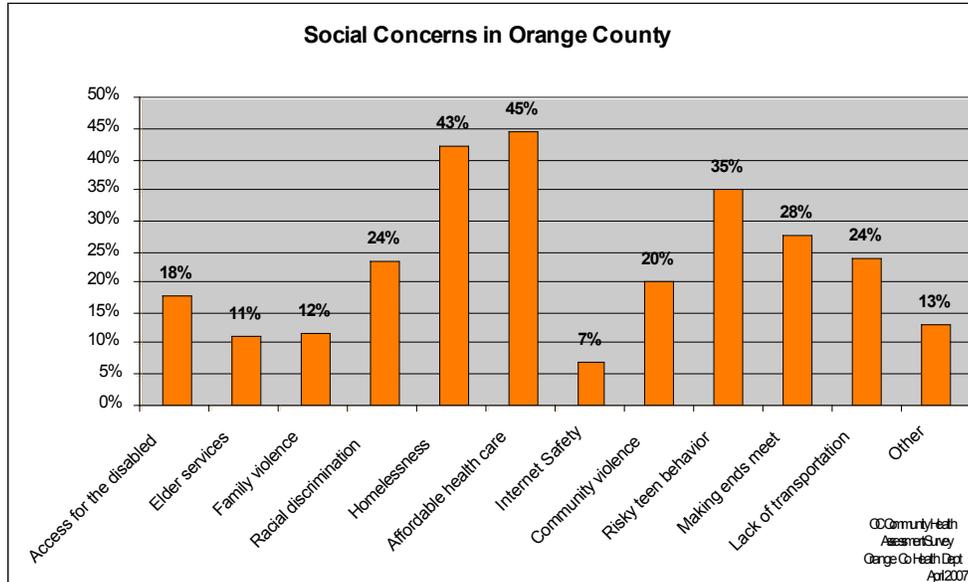


Figure 4, C1-1: Responses to the survey question, “Which of these things stand out for you as important social issues in Orange County? Choose three.”

The survey also revealed that many residents do not have the resources to be able to afford basic necessities. In response to a series of questions about food and nutrition, 12% of Orange County residents replied that they worry their food will run out before they can afford to buy more, and 16% feel they cannot afford to eat balanced meals. A similar question about medications found that 14% of residents had either delayed or not filled a necessary prescription in the last twelve months due to cost. While many Orange County residents are well educated and bring home a more than adequate wage, others in the community are struggling to survive.

Resources

Orange County has many nonprofit and public agencies working to help meet basic needs. Some of these are the Orange County Health Department, the Department of Social Services, Piedmont Community Health Clinics, Literacy Council, MDC and The Women’s Center, among others.

The faith community is sometimes able to come together in order to address the needs of the poorer members of their community through local organizations like Inter-Faith Council, Orange Congregations in Mission and the Durham Rescue Mission.

Obtaining or improving job skills is a critical factor in overcoming poverty through increasing income potential. Refer to Chapter 4, C2: Employment for more job-related resources.

Gaps and Unmet Needs

People often assume that anyone who is employed is able to meet their basic needs with their wages. This is far from being a reality for many working poor. Additionally, those residents who rely on income from disability services are not able to subsist on that income alone. Finally, those residents who have no income at all struggle with understanding the eligibility requirements of public services such as Food Stamps, Medicaid and Work First, and are often coping with less public assistance than is commonly believed.

Emerging Issues

There is a growing income gap in America which will continue to exacerbate the problems of the poor.⁷¹ Increasing wealth at the upper end of the income scale will continue to drive the price of housing and other necessities up while incomes at the lower end of the scale stagnate. To the extent that the income gap reduces overall societal commitment to addressing the needs of the poor, the problem will continue.

Food Pantries across Orange County report that they are serving more and more clients every month. Most food pantries report that many of their clients have at least one working adult in their household. National data from America's Second Harvest shows that almost 28% of their clients have at least one working adult in the household.⁷² (See Chapter 4, C4: Hunger for more detail.)

The needs of poor citizens often go unnoticed by the county's wealthier citizens. In order to address economic disparities and help reduce the ill effects that poverty has on health and healthcare access, we need to make the needs of poor citizens the needs of all citizens.

C2) Employment

Healthy Carolinians 2010 Objective related to employment:

Eliminate income inequalities among different segments of the population and ensure that all communities have a healthy, viable and sustainable economy and individual members have the opportunity to participate fully in work and production

Impact

Employment and underemployment impact health and its correlates in three significant ways. First, because health insurance is a benefit most often tied to employment status in this country, those who are employed on an hourly or part-time basis, as well as those who are not employed at all, face a barrier to healthcare that does not exist in many other modernized democracies. Second, because employment has such a direct effect on income and poverty, those who are under or unemployed are disproportionately affected by the rising costs of health care of all types. Third is wealth creation; employment is a way that people establish wealth and buy homes and build the economy, people who are unable to maintain gainful employment have difficulty succeeding. This may have an impact on the quality of people's lives and their health especially as they age.

Contributing Factors

Opportunities for employment are not evenly distributed across our population. Because much of the population in Orange County is highly educated compared to other counties of a similar size, those without a college degree often struggle to find employment that is stable and that pays a living wage. Barriers to employment are caused by many other factors in residents' lives; lack of transportation, childcare and education make employment difficult and homelessness or a criminal background can make employment almost impossible. Even having a poor credit rating or a risqué "my space" web page can now be held against a person who is seeking employment.

⁷¹ The Rising Prevalence of Severe Poverty in America: A Growing Threat to Public Health, S. Woolf, MD, R. Johnson, PhD, J. Geiger, MD, MS, Am J Prev Med 2006; 31(4), p. 332

⁷² America's Second Harvest, Hunger Fact Sheets, accessed September 13, 2007, at http://www.secondharvest.org/learn_about_hunger/fact_sheet/

Orange County has very few manufacturing jobs. Most of the employment is through the university, the hospital and other government jobs, which tend to be more stable. The result is fewer living wage positions for lower skilled workers and a limited mix of jobs.

Youth employment opportunities are limited as well. Local teens and young people must compete with the UNC student population for service positions and lower skilled jobs.

Data

The 2006 average unemployment rate for Orange County was 3.3%, a rate that is quite low in comparison to that of the state and surrounding counties. The comparable rates were 3.8% for Durham County and 5.2% for Alamance County, while the state unemployment rate in 2006 was 4.7%.⁷³ There were 69,095 people in the labor force in Orange County as of December, 2006; 67,015 of those were employed and 2,080 were unemployed.⁷⁴

According to 2006 figures, the University remains the largest employer in Orange County with 11,000 employees, followed by UNC Hospitals with 6,956. The Chapel Hill-Carrboro City Schools employ 1,573 people, while a further 1,031 work in the Orange County School System. In the private sector, Blue Cross/Blue Shield of North Carolina has the largest number of employees with 1,612 workers. General Electric, A Southern Season and Sports Endeavors employ 501, 501, and 387 respectively. Orange County Government (963) and the town of Chapel Hill (678) round out the top ten.⁷⁵

Private sector jobs were the leading form of employment in Orange County as of mid-2006, followed by state, local and federal government respectively. In the private sector, workers were employed in retail, manufacturing, wholesale trade, construction, transportation, utilities, agriculture, food service and a variety of other jobs. There are an increasing number of professional services positions as well.⁷⁶

Disparities

Racial disparities have long existed in the area of employment opportunities. In 1990 the mean income of white families was \$55,271 while the mean income of black families was only \$28,610.⁷⁷ No more recent county level data on this measure can be obtained at this time. However, the American Community Survey of 2005 does report employment data by race at the district level, i.e. the 4th Congressional District which includes Orange and Durham Counties and parts of Chatham and Wake, and at the state level. The data shows that while the overall unemployment rate for the district in 2005 was 3.9%, African Americans experienced an unemployment rate of 11.7%. In addition, as mentioned above, persons with disability may also encounter significant challenges in obtaining employment. The unemployment rate for the district for persons with any disability was 10.7%. At the state level, the figures for 2005 were similar; there was a 5.4% overall unemployment rate; 12.5% for African Americans; 10.6% for American Indian/Alaska natives; 8.1% for Asians; 6.7% for Hispanics; and 13.3% for multiracial. Again, persons with a disability also experienced a

⁷³ State of the Local Economy Report, Orange County Economic Development Commission, March, 2007, <http://www.co.orange.nc.us/>.

⁷⁴ Labor Force Information, Employment Security Commission, accessed September 8, 2007, <http://www.ncesc.com/lmi/laborStats/laborStatMain.asp#laborStats>.

⁷⁵ State of the Local Economy report, Orange County Economic Development Commission, March, 2007, <http://www.co.orange.nc.us/>.

⁷⁶ Ibid

⁷⁷ LINC Topic Report: Decennial Census- Income, Poverty and Employment, Orange County

higher than average unemployment rate, at 12.9% - a rate higher than any other group listed herein.

It is often difficult to tell, on an individual level, whether a lack of employment opportunity has caused or been caused by other disparities. What is apparent is that disability status, gender, racial or ethnic background, level of education and even credit history are factors that persistently shape disparities in the job market. Criminal background is also a barrier to employment, although there are a significant number of workforce development programs designed to facilitate successful reentry into the community.⁷⁸

Community Survey Results⁷⁹

While employment was not addressed at length on the 2007 Community Health Assessment survey, there were some questions that are directly related and others that are peripherally related to job availability. In response to a specific question about employment, as illustrated in the graph below, residents are divided about the level of employment opportunity in the county.

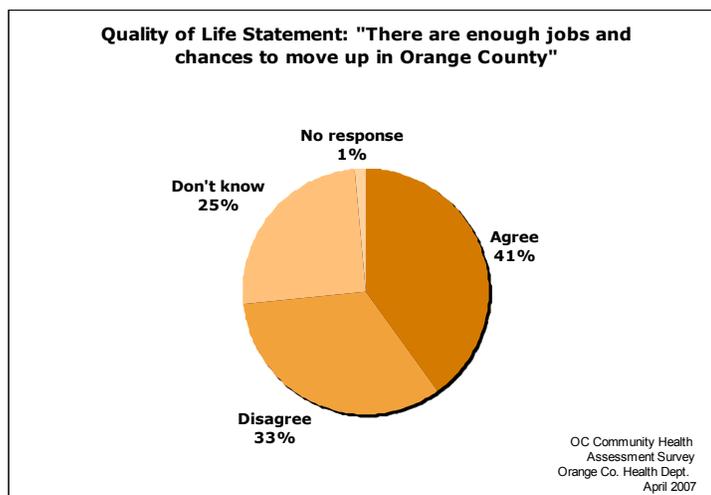


Figure 4, C2-1: Responses to the survey question, "Please tell me whether you agree or disagree: There are enough jobs and chances to move up in Orange County."

In addition, residents were given a list of social issues and asked to select the three which they felt were of greatest concern in the community. "Making ends meet" was the fourth most frequently selected issue, with 28% of respondents citing it as a top concern for them. "Lack of transportation" was cited by another 24% as a major issue. As noted above, having health insurance is often dependent on having a job with benefits. When presented with a list of health issues, similar to the list of social issues mentioned above, a "Lack of health insurance" was the most frequently selected item, with over 53% of survey participants indicating it as a concern for them.

⁷⁸ NC Department of Correction, Workforce Development Activities report, Sandy C. Pearce, Office of Research and Planning, March 17, 2004, <http://crpp41.doc.state.nc.us/docs/pubdocs/0006005.PDF>.

⁷⁹ These data are from the Orange County Community Health Assessment survey conducted by the Orange County Health Department, April, 2007. See appendix for survey content.

Resources

Club Nova, a program of OPC-Mental Health, offers an employment program for people with persistent mental illness. They run the Club Nova Thrift Shop and also have a transitional employment program that places people in community jobs for a period of 6-9 months. During that time the employee and employer receive support from Club Nova staff. In order to receive services, individuals must be referred by their doctor to Club Nova.

El Centro Latino provides skill-building classes to Latinos to aid them in developing the self-sufficiency skills required to achieve gainful employment. They offer English as a Second Language, Computer Literacy, and Driver's License classes. Through their Employment Program, they offer one-on-one consultation services to help clients determine personal skill level, search for employment possibilities, create a resume, and apply for positions.

The Department of Social Services offers a wide range of services for residents. Work First is North Carolina's TANF (Temporary Assistance for Needy Families) plan to help families move from welfare into jobs. Work First provides assistance with job search, vocational training, day care, transportation and time limited cash assistance to families with children under age 18 who meet income and resource guidelines. The Orange County Skills Development/Job Link Center provides career training services, labor market information and job placement information for county residents, and serves as the connection between employers and qualified workers.⁸⁰

The North Carolina Employment Security Commission provides employment services, unemployment insurance, and labor market information to the State's workers, employers, and the public. Their stated mission is to promote and sustain the economic well being of North Carolinians in the world marketplace by providing high quality and accessible workforce-related services. These services are intended to promote economic stability and growth, development of a skilled workforce, and a world class economy for North Carolina.⁸¹

As part of their data collection and reporting, the Economic Development office provides a listing of minority owned businesses in the county, accessible at their website. As of early 2007, there were approximately 76 such business in Orange County.⁸²

Gaps and Unmet Needs

In a county where the costs of living are so high, being unemployed for even a short time can have a devastating impact on health and the quality of life. A method of providing affordable health care coverage for the unemployed is needed to act as a safety net for those who are already under stress due to the lack of a job (see Chapter 4A: Access to Health Insurance for more details). In addition, as noted above, a lack of transportation is also a tremendous obstacle for those without their own vehicles. More and better public transportation is critical to improving the employment outlook for many residents (see Chapter 4G: Transportation for more details).

⁸⁰ Orange County Department of Social Services, Annual Report 2004-2005, <http://www.co.orange.nc.us/socsvcs/images/Annual%20Report%2004-05.pdf>.

⁸¹ Personal communication from Pamela Rich, Manager, ESC Hillsborough, September 12, 2007. See www.ncesc.com for more information.

⁸² Orange County Minority Owned Businesses, Orange County Economic Development Commission, April, 2007, <http://www.co.orange.nc.us/>.

Emerging Issues

The graph below illustrates the trending in some private sector job categories over the eight year period from 1997 to 2006.⁸³ As noted above, manufacturing jobs have declined over time. According to the Economic Development Commission report, declines have also been observed in the following sectors: Transportation & Warehousing, Information, Finance & Insurance, Real Estate, and Accommodation & Food Services, the last after a sharp increase in 2004. Sectors which have demonstrated growth over time are Utilities, Wholesale Trade, Retail Trade, Management, Health Care and Social Assistance, and Arts, Entertainment & Recreation. Construction has remained somewhat flat in recent years.⁸⁴

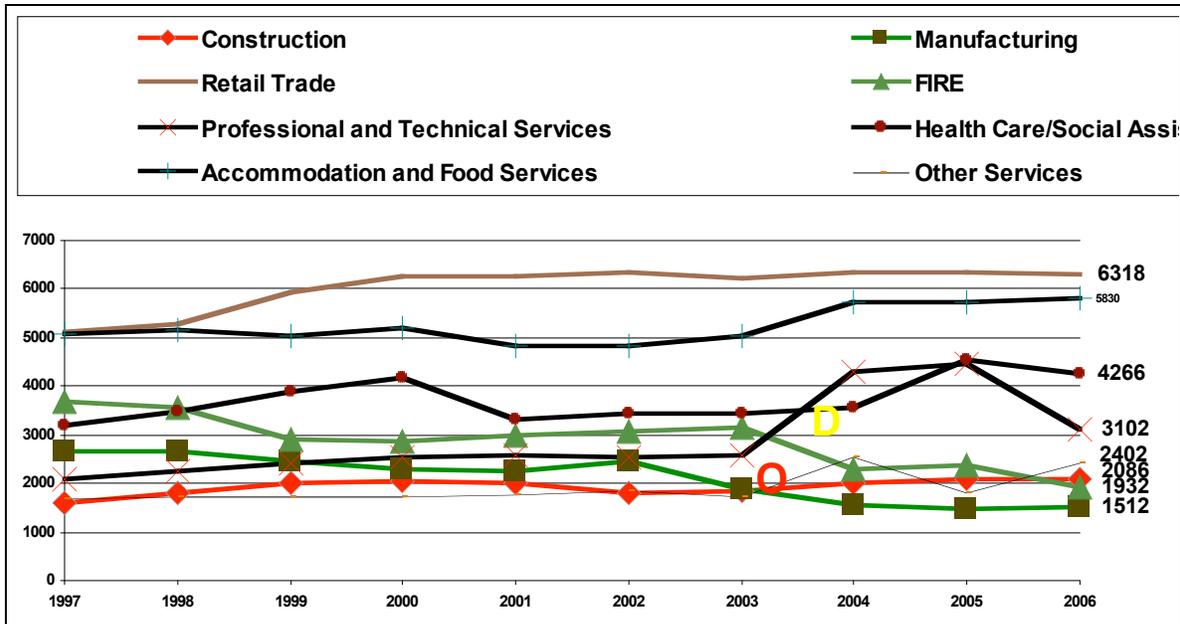


Figure 4, C2-2: Job Trends, Private Sector, 1997-2006; graph courtesy of the Orange County Economic Development Commission. (Note: FIRE = Finance, Insurance and Real Estate)

Although private sector jobs in general saw a decline over the 2000-2004 period, there was a net increase of 915 jobs from 2004 to 2005. At the time the 2007 annual report was written, it appeared this trend had continued into 2006. As part of their Five Year Strategic Plan, the Economic Development Commission hopes to encourage the creation of 5,000 new private sector jobs in Orange County by June 30, 2010.⁸⁵

C3) Housing and Homelessness

Healthy Carolinians Objective related to housing:

To provide affordable housing for low-income populations that meets minimum building code standards, including indoor plumbing, potable water, adequate wastewater disposal, electricity and is free of environmental contaminants

⁸³ State of the Local Economy report, Orange County Economic Development Commission, March, 2007, <http://www.co.orange.nc.us/>.

⁸⁴ State of the Local Economy, Presentation 3/13/07 document, Orange County Economic Development Commission, March, 2007, <http://www.co.orange.nc.us/>

⁸⁵ Ibid

Impact

According to the Orange County Housing and Community Development Department, affordable housing is housing that is priced so that households with low-incomes can afford to purchase it and those with very low-incomes can afford to rent it without paying more than 30% of their income for rent (including utilities) or mortgage (excluding utilities). If low-income households pay more than 30% of their income for housing, they will not have enough for other necessities.⁸⁶

Affordable housing in Orange County is a major issue. Frequently, those who work here note that they cannot afford to live here, those who live here say that the cost of their housing prevents them from using the services that exist here, and those who do not have housing at all face an almost insurmountable challenge in coordinating their housing, employment, social, and medical needs.

Directly related to housing is the problem of homelessness. According to U.S Department of Housing and Urban Development (HUD), a person is considered homeless if he/she resides in 1) a place not meant for human habitation such as a car, street, or abandoned building, or 2) an emergency shelter, transitional housing, or supportive housing for homeless persons who originally came from the streets. Individuals who are homeless often lack the income necessary to sustain permanent housing and may lack the means necessary to access needed services. Based on estimates from examples across the country, Orange County spends up to \$1,600,000 per year on the chronic homeless population.

Contributing Factors

The high cost of living in this county prevents many from being able to own or rent housing here. Cost of living traditionally includes expenses like food and clothing, energy, transportation, and personal services. Additionally, individuals who pay over 30% of their income are at greater risk of becoming homeless. Under-employment and unemployment and individuals with lower incomes also have a harder time finding affordable housing. Job placement assistance and opportunities for low-rent housing could help individuals become self-sufficient.

Homelessness is a complicated problem rising from the changing social, economic, political, and cultural conditions. Lack of affordable housing, insufficient income, and inadequate services are primary factors that lead to homelessness. In addition, domestic violence, substance abuse, and mental illness are all conditions that contribute to homelessness.

See Chapter 4, Sections A, B and D for additional information on Income, Poverty and Employment and Hunger in Orange County.

Data - Housing

"During the period 1990 to 2000, the total number of housing units increased by 27.4% to 49,289 units. Also during this period, the number of owner-occupied units increased by 32.4% and represented over one-half of all housing units in Orange County. In 2000, owner-occupied housing in Chapel Hill represented 43% of all occupied units. In renter-occupied

⁸⁶ Orange County Housing and Community Development website: accessed September 11, 2007 at http://www.co.orange.nc.us/housing/info_stats.asp.

housing, structures with five or more units continue to be the majority of the housing stock at 52.9% in 2000.”⁸⁷

At 80.2%, single-family detached housing units represent the majority of the owner-occupied housing stock in Orange County. The number of single-family detached units has increased by 39.4% since 1990. Overall, owner-occupied housing has increased 32.4% (6,452 units) between 1990 and 2000. The largest increases were seen in the percentage of three- or four-unit housing (124.4%), one-unit detached (39.4%), five or more units (27.9%) and one-unit attached (24.4%).

Housing Units by Tenure and Number of Units							
Tenure/Number of Units ⁸⁹		1990		2000		Change	
		Number	Percent	Number	Percent	Number	Percent
Owner Occupied	1 Unit (detached)	15,182	76.1%	21,170	80.2%	5,988	39.4%
	1 Unit (attached)	884	4.4%	1,100	4.2%	216	24.4%
	2 Units	131	0.7%	138	0.5%	7	5.3%
	3 or 4 Units	78	0.4%	175	0.7%	97	124.4%
	5 or more Units	340	1.7%	435	1.6%	95	27.9%
	Mobile Home or Trailer	3,216	16.1%	3,330	12.6%	114	3.5%
	Other	112	0.6%	47	0.2%	-65	-58.0%
	Total	19,943	100.0%	26,395	100.0%	6,452	32.4%
Renter Occupied	1 Unit (detached)	3,208	19.9%	3,765	19.3%	557	17.4%
	1 Unit (attached)	669	4.1%	916	4.7%	247	36.9%
	2 Units	1,258	7.8%	1,505	7.7%	247	19.6%
	3 or 4 Units	1,573	9.7%	1,640	8.4%	67	4.3%
	5 or more Units	8,210	50.8%	10,308	52.9%	2,098	25.6%
	Mobile Home or Trailer	1,109	6.9%	1,312	6.7%	203	18.3%
	Other	134	0.8%	22	0.1%	-112	-83.6%
	Total	16,161	100.0%	19,468	100.0%	3,307	20.5%

Table 4, C3-1: Housing Units by Tenure and Number of Units⁸⁸

In terms of rental housing, housing with five or more units continues to be the majority of the housing stock at 50.8% in 1990 and 52.9% in 2000. The number of mobile homes used for rental housing increased 18.3% from 1,109 units in 1990 to 1,312 units in 2000. During this same period, single-family attached housing increased 36.9% and housing with two units increased 19.6% with the overall rental housing stock increasing 20.5%.

“Average and median sales prices of both new and existing homes in Orange County for 2004 exceed \$100,000. The lowest prices are reflected in the sales of condominiums and

⁸⁷ Housing and Community Development Consolidated Plan 2005-2010, Orange County Department of Housing and Community Development, 2005. Accessed September 11, 2007 at: <http://www.co.orange.nc.us/housing/documents/Housingplan.pdf>.

⁸⁸ Ibid.

⁸⁹ One-Unit, detached refers to a one-unit structure detached from any other house; that is, with open space on all four sides. Such structures are considered detached even if they have an adjoining shed or garage. A one-family house that contains a business is considered detached as long as the building has open space on all four sides. Mobile homes to which one or more permanent rooms have been added or built also are included. One-unit, attached refers to a one-unit structure that has one or more walls extending from ground to roof separating it from adjoining structures. In row houses (sometimes called townhouses), double houses or houses attached to nonresidential structures, each house is a separate, attached structure if the dividing or common wall goes from ground to roof. Two or more units refers to structures containing two or more housing units, sometimes further categorized as units in structures with two, three or four, five to nine, 10 to 19, 20 to 49 and 50 or more units.

townhouses. Sales prices for new detached homes exceed \$250,000 for both new and existing homes. The average home sales price in 2004 was \$279,996 and the median was \$229,500. In 2004, 20% of homes sold for less than \$160,000 down from 24% in 2003 and 29% in 2002. Almost two-thirds of single-family homes sold in 2004 had a sales price of \$200,000 or more with almost one half of those having a sales price over \$350,000. Housing in the Chapel Hill area is currently among the most expensive in the Research Triangle region. In 2003, the average purchase price of a home in Orange County rose from about \$261,895 to \$280,592. In Chapel Hill, the average purchase price was \$320,913. Since 2000, the average purchase price has increased 22.4% in Chapel Hill.”⁹⁰

Based on 2005 median income data, three person families at or below 94.5% of area median income and four person families at or below 85.3% of the area median income cannot afford the typical new home in Orange County. For families at or below 80 percent of median less than 6% of the housing on the market is affordable. Even families at or below 110 percent of median have access to only 13.2% of the homes on the market.⁹¹

	Income Needed to Afford a Two-Bedroom Apartment, 2006	Housing Wage, 2006 (Hourly Wage Needed to Afford a Two-Bedroom Apartment)
North Carolina	\$26,237	\$12.61
Orange County	\$31,400	\$15.10

Table 4, C3-2: Total Income and Hourly Wage Needed to Afford a Two-bedroom Apartment⁹²

“Rental housing in Orange County is dominated by larger apartment developments—those with five or more units— which represent 52.9% of the renter-occupied housing in the County. The 2006 Fair Market Rents (FMR) for a two-bedroom apartment in Orange County is \$785.”⁹³ According to the Orange County, North Carolina Comprehensive Housing Strategy report, for families of all sizes at or below 50% of the median income, obtaining rental housing requires the family to spend more than 30% of their annual income on housing (between 33.5% and 37.2% depending on number of dependants and incomes). The affordability gap for families at or below 30% of median is particularly acute. A traditional two adult, two child family earning 30% of median income, would need to spend 55.8% of their income to afford the fair market rent for a three bedroom unit. A family consisting of an adult and two children at 30% of median, would spend 62% of their income to afford the fair market rent for a three bedroom unit.⁹⁴

⁹⁰ Housing and Community Development Consolidated Plan 2005-2010, Orange County Department of Housing and Community Development, 2005. Accessed September 11, 2007 at: <http://www.co.orange.nc.us/housing/documents/Housingplan.pdf>.

⁹¹ Orange County, North Carolina Comprehensive Housing Strategy, Orange County Department of Housing and Community Development, April 2006: Accessed on September 11, 2007 at <http://www.co.orange.nc.us/housing/documents/OrangeCountyHousingMarketStudy4-4-06.pdf>.

⁹² Housing and Community Development Consolidated Plan 2005-2010, Orange County Department of Housing and Community Development, 2005. Accessed September 11, 2007 at: <http://www.co.orange.nc.us/housing/documents/Housingplan.pdf>.

⁹³ Ibid

⁹⁴ Orange County, North Carolina Comprehensive Housing Strategy, Orange County Department of Housing and Community Development, April 2006: Accessed on September 11, 2007 at <http://www.co.orange.nc.us/housing/documents/OrangeCountyHousingMarketStudy4-4-06.pdf>.

“There are currently not enough rental units to serve households at or below 30% of median income. There are an over supply of rental units available to populations at or above 50% of median, with vacancy rates for all rental units at or above 10%.”⁹⁵

Data - Homelessness

According to a point-in-time survey conducted by the Orange County Community Initiative to End Homelessness in January 2006, there were 237 homeless individuals. Of those, 154 were single individuals, while 27 were families with children, accounting for 83 individuals.

Homeless Subpopulations in Orange County				
Homeless Subpopulation	Sheltered	Unsheltered	Total	Percent
Chronically Homeless	29	10	39	16.46%
Severely Mentally Ill	49	5	54	22.78%
Chronic Substance Abuse	73	15	88	37.13%
Veterans	10	1	11	4.64%
Persons with HIV/AIDS	10	1	11	4.64%
Victims of Domestic Violence	25	2	27	11.39%
Total Persons Counted			237	100.00%

Table 4, C3-3: Homeless Subpopulation in Orange County

Refer to The Orange County Partnership to End Homelessness’s, *Ten Year Plan to End Homelessness*, for more information on homelessness in Orange County and details about Orange County’s comprehensive approach to address the problem. The document can be accessed at:

http://townhall.townofchapelhill.org/homelessness/plan/homeless_plan_complete.pdf.

Disparities

There is a connection between under-employment and an inability to stretch a minimum wage salary to cover the costs of living in adequate housing while paying associated bills. Although this is a highly educated community, those with a high school education (or less) often struggle to find a suitable and stable place to live. The connection between being one of our oldest citizens and not being able to afford housing or food is also a concern. Seniors who are struggling to pay medical bills not covered by Medicare note that their home is an asset that counts against them when they are attempting to qualify for Medicaid so that their medications and long-term care needs can be paid for.

In terms of race, whites were more likely to own their homes than all other racial groups, as shown in Table 4C-4. Low-income and minority groups are the most likely to be turned down for a loan or become victims to sub-prime or predatory loans.

Race of Householder	Owner Occupied		Renter Occupied	
	Percent	Number	Percent	Number
White	84.9	22,424	73.9	14,369
African-American	11.3	2,986	15.8	3,080
Asian	2.3	602	5.3	1,025
Native-American	.2	62	.5	105
All others*	1.3	341	4.5	869

⁹⁵ Ibid

Total	100	26,415	100	19,448
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Table 4, C3-4: Renter and Owner Occupied Housing by Householder's Race, 2000 Census⁹⁶

*Includes Native Hawaiian alone, some other race alone, and two or more races

A worker in Orange County would need to work 40 hours a week at \$15.10/hour in order to afford a two-bedroom unit at the Fair Market Rent (Compared to the North Carolina average wage of \$12.61/hour). A worker who earned minimum wage (\$5.15/hour) would have to work 117 hours per week in order to afford a two-bedroom apartment at Fair Market Rent.⁹⁷ See table 4C-2 above.

When looking at need, among renters, Hispanic households experience a disproportionately higher percentage of housing problems⁹⁸ in Orange County. Among homeowners, African Americans, Hispanics and Asian Americans experience a disproportionately higher percentage of housing problems. Very low-income households (those earning less than half of the area's median income) and extremely low-income households (those earning less than 30% of the area median income) have the greatest number of housing problems, whether renters or homeowners.⁹⁹

Community Survey Results¹⁰⁰

The results of the 2007 Community Health Assessment Survey reflect the growing concern of residents over homelessness in Orange County. When presented with a list of Social Concerns, homelessness was the second most frequently cited concern, with 43% of respondents choosing homelessness as one of their top three social concerns. See Figure 4, C3-1 below. No other questions were asked related to housing.

⁹⁶ Ibid

⁹⁷ Housing and Community Development Consolidated Plan 2005-2010, Orange County Department of Housing and Community Development, 2005. Accessed September 11, 2007 at:

<http://www.co.orange.nc.us/housing/documents/Housingplan.pdf>.

⁹⁸ Households with housing problems are those households occupying units without a complete kitchen or bathroom, that contain more than one person per room and/or that pay more than 30% of their income to cover housing expenses.

⁹⁹ Orange County, North Carolina Comprehensive Housing Strategy, Orange County Department of Housing and Community Development, April 2006: Accessed on September 11, 2007 at

<http://www.co.orange.nc.us/housing/documents/OrangeCountyHousingMarketStudy4-4-06.pdf>.

¹⁰⁰ These data are from the Orange County Community Health Assessment survey conducted by the Orange County Health Department, April, 2007. See appendix for survey content.

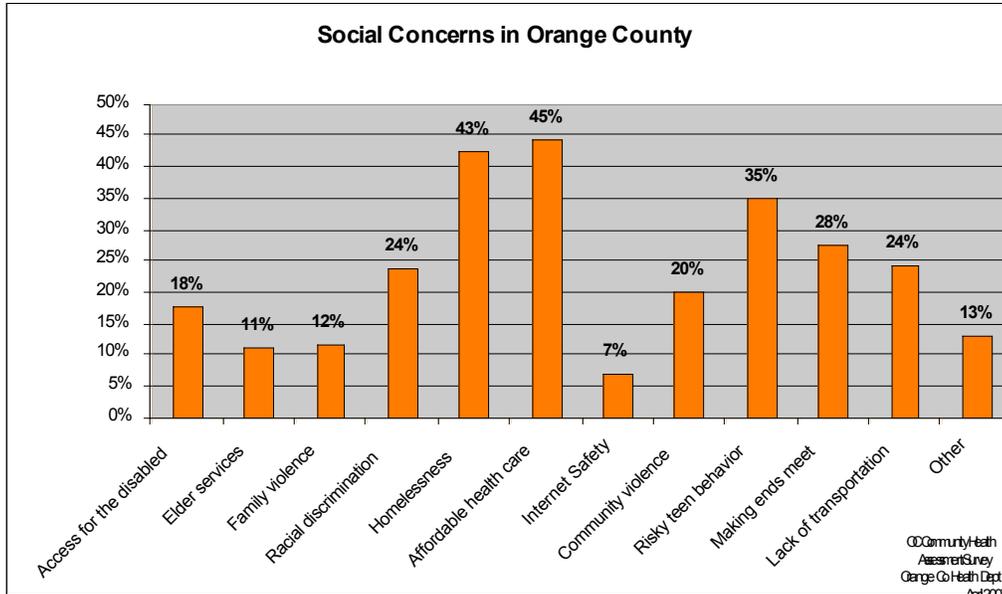


Figure 4, C3-1: Responses to the survey question, “Which of these things stand out for you as important social issues in Orange County? Choose three.”

Resources – Housing

Public Institutions and Private Organizations

Important partners in achieving Orange County's low-income housing goals include the following public institutions and private organizations.

Public Institutions

The Orange County Consortium is made up of several local government entities. These entities have various responsibilities for administering programs and activities through a variety of departments as described below.

- The Orange County Housing and Community Development Department is responsible for administration of the Section 8 program for the County, the Community Development Block Grant (CDBG) Small Cities program and serves as the lead agency for the Orange County HOME Consortium.
- The Chapel Hill Planning Department is the administrator of the Town's CDBG entitlement program. The department is also responsible for long-range planning and policy design for housing development and for implementing the Town's affordable housing program.
- The Town of Carrboro administers the Carrboro CDBG Small Cities program and the planning department is responsible for planning and policy design for housing development. The Town also has a successful revolving loan fund for small business.
- The Hillsborough Planning Department is responsible for planning and policy development for the Town, including the recently adopted 2010 plan.

Non-Profit Organizations

Most of these nonprofit organizations work closely together on housing issues. Local government staffs work with the nonprofits on a regular basis, since many nonprofit activities are supported with local funds. Communication could be improved between housing development agencies and social service agencies that provide support and empowerment for families receiving housing assistance.

- The Orange Community Housing and Land Trust (OCHLT) is a housing development corporation, whose operating budget is funded by Orange County, Chapel Hill and Carrboro. The organization utilizes the land trust model for homeownership to create permanently affordable housing opportunities for Orange County residents.
- Habitat for Humanity of Orange County is a strong local affiliate of the national organization.
- InterFaith Council for Social Service (IFC) operates a homeless shelter and is a chief advocate for the homeless population. IFC also offers a program to prevent homelessness through financial assistance to families that are at risk of losing their permanent housing.
- Orange Congregations in Mission serves northern Orange County, offering programs that prevent homelessness through financial assistance to families that are at risk of losing their permanent housing.
- The Joint Orange-Chatham Community Action Agency is a local community action agency offering a wide variety of rehabilitation, weatherization, counseling and financial assistance to very low-income families.
- EmPOWERment, Inc. is a community development corporation that promotes models of community building, problem solving and social action to mobilize low-income communities to build shared vision and power for community change.
- The Northside Community Association is a neighborhood organization that represents people, issues and needs of the Northside Community of Chapel Hill. Emphasis is placed on preserving the existing community and promoting affordable housing.
- Affordable Rentals, Inc. is an organization whose goal is to make affordable rental housing possible for residents with annual incomes between 30% and 50% of the area median.
- The Chrysalis Foundation for Mental Health is a private, nonprofit organization that promotes affordable housing through property acquisition, rehabilitation, and development for persons with mental disabilities in Orange, Person and Chatham Counties.
- The Weaver Community Housing Association is a cooperative housing association specializing in the provision of rental housing for low-income families.

Private Industry

Private lenders (especially those interested in achieving the lending goals of the Community Reinvestment Act), public lenders like Rural Development, builders, realtors and developers, are entities whose assistance is crucial to the success of housing initiatives undertaken in Orange County.

Utility companies develop construction and energy conservation standards to reduce energy costs. They also provide information and training on energy-saving practices in home, such as how to install insulation and weather stripping. Low-interest loans are available from utility companies for the purchase and installation of insulation, high efficiency heat pumps and other energy conservation measures.

Many commercial banks have responded to the Community Reinvestment Act with programs to finance decent, affordable housing. Banks in Orange County with such programs include Wachovia, Central Carolina Bank, RBC Centura Bank, First Citizens, BB&T, Harrington Bank and Hillsborough Savings Bank/NBC Bank. These special lending programs are targeted to households that do not qualify for the lenders' regular programs and may have rates slightly lower than conventional rates, lower down payment requirements or special underwriting treatment.

Additionally, in 1997 and 2001 Orange County voters passed affordable housing bond referendums for \$1.8 million and \$4 million dollars respectively. This funding has been used to facilitate the development of approximately 100 affordable housing units to date.

Resources – Homelessness

Refer to The Orange County Partnership to End Homelessness's, *Ten Year Plan to End Homelessness*, for more information on homelessness and the resources available in Orange County. The document can be accessed at:

http://townhall.townofchapelhill.org/homelessness/plan/homeless_plan_complete.pdf.

Gaps and Unmet Needs

There is currently, and will be into the future, a demand for rental units priced for families at or below 30 percent of median income and single family housing priced to be affordable to families between 60 percent and 80 percent of median income. The financing targeted for rental units are primarily based on tax credits or housing bonds. If the growth in these families remains constant, then over 3,300 households will require housing targeted at this level by 2010. There are currently no providers directed at the under 30 percent of median income market. As indicated by the developer surveyor, most single family housing planned or under construction is targeted at families well above median income.¹⁰¹ Therefore, it is unlikely that there will be sufficient housing to meet the needs of the lower-income population in the future.

There are limited group homes or assisted living facilities for individuals with mental or physical disabilities. There is also a need to help low-income elderly with home maintenance and improvement.

There needs to be systemic changes to and an integration of the homeless services system in order to end chronic homelessness in Orange County and raises awareness of issues related to homelessness among all residents. While some homeless people require limited assistance in order to regain permanent housing and self-sufficiency. Others, especially people with physical or mental disabilities, will require extensive and long-term support.

Emerging Issues

According to the County's 2006 Continuum of Care, 237 individuals were identified as experiencing homelessness. Thirty-nine of those individuals were chronically homeless. In the 2007 point-in-time survey, 224 people were identified as experiencing homelessness in Orange County. Seventy-one of those persons were chronically homeless. Some homeless people require limited assistance in order to regain permanent housing and self-sufficiency. Others, especially people with physical or mental disabilities, require extensive and long-term support.¹⁰²

Also, many residents are living in substandard or over-crowded housing in order to save on rent and expenses. As the costs of housing continue to rise while wages remain stagnant, it will be harder and harder to convince people who cannot afford to live here to continue to

¹⁰¹ Orange County, North Carolina Comprehensive Housing Strategy, Orange County Department of Housing and Community Development, April 2006: Accessed on September 11, 2007 at <http://www.co.orange.nc.us/housing/documents/OrangeCountyHousingMarketStudy4-4-06.pdf>.

¹⁰² Orange County 10 Year Plan to End Homelessness, Orange County Partnership to End Homelessness. Accessed September 11, 2007 at: http://townhall.townofchapelhill.org/homelessness/plan/homeless_plan_complete.pdf.

work here. And those residents who are without a home need assistance with employment and healthcare as much as they need a roof over their head.

To reverse the trend of evaporating affordable housing options will take the concerted efforts of our local governments, nonprofits, businesses, and the University of North Carolina at Chapel Hill. One possible solution dictated by local governments is the idea of inclusionary zoning. Inclusionary zoning requires that a certain percentage of new residential units being built in a newly constructed residential development larger than a set number of units (e.g. five units or more) be sold or rented as affordable housing units. In addition, local governments can find ways to streamline the approval process both on the funding side and development side for affordable housing projects.

Also, nonprofit organizations need to work together to offer housing counseling and financial education to more low-income households to improve the credit-worthiness and ability of additional low wealth families to buy a home. The University of North Carolina at Chapel Hill needs to be encouraged and held accountable for supplying ample housing to the growing student population and its faculty and staff. UNC-CH could follow the example of Yale University and Duke University, who have both partnered with local community development corporations to produce affordable housing and/or commercial development. More affordable housing opportunities will benefit the whole community by reducing the commute many low-income families are forced to make when they cannot afford to live in our community (which adds to traffic congestion), helping local employers and the University recruit and retain staff, and maintaining a diverse community.

C4) Hunger

Health Carolinians 2010 Objectives related to hunger:

The goal for food security is: ***Assure that all residents of a community have access at all times to enough food for an active, healthy life.***¹⁰³

Impact

Hunger: A condition in which people do not get enough food to provide the nutrients (carbohydrates, fat, protein, vitamins, minerals and water) for fully productive, active and healthy lives.

Malnutrition: A condition resulting from inadequate consumption or excessive consumption of a nutrient; can impair physical and mental health and contribute to or result from infectious diseases.

Vulnerability to hunger: A condition of individuals, households, communities or nations who have enough to eat most of the time, but whose poverty makes them especially susceptible to hunger due to changes in the economy, climate, political conditions or personal circumstances.¹⁰⁴

The terms food security and food insecurity have also become widely used in conversations about hunger. America's Second Harvest defines food security as "Access by all people at all times to enough food for an active, healthy life. Food security includes at a minimum: (1) the ready availability of nutritionally adequate and safe foods, and (2) an assured ability to

¹⁰³ Healthy Carolinians 2010 Objective, Community Health,
<http://www.healthycarolinians.org/2010objs/commhealth.htm>

¹⁰⁴ Food Bank of Central and Eastern North Carolina, Hunger Glossary,
<http://content.foodbankcenc.org/education/glossary.asp>

acquire acceptable foods in socially acceptable ways (e.g., without resorting to emergency food supplies, scavenging, stealing, or other coping strategies).” By contrast, the definition for food insecurity is, “Limited or uncertain availability of nutritionally adequate and safe foods or limited or uncertain ability to acquire acceptable foods in socially acceptable ways.”¹⁰⁵

The lack of nutritionally adequate foods is a significant risk factor for all types of poor health outcomes, particularly for children. Poor nutrition and hunger lead to learning disabilities, fatigue and difficulty with social interaction.

Contributing Factors

Lack of adequate food is a problem for many residents in Orange County, as evidenced by the high number of people seeking food assistance through various programs. In a county with a high median income, it is troubling that so many of our residents are unable to make ends meet from month to month and may go hungry as a result. (See Data and Survey Results paragraphs below; see also the section on Income and Poverty.)

As noted above, some people have enough food in ordinary circumstances but are particularly vulnerable to food insecurity during times of crisis, whether due to personal situations, unexpected weather conditions or economic upheaval.

Data

Nearly 14% of Orange County individuals were living in poverty in 2006, and 6.9% of all families. Families consisting of a single female parent experienced a higher incidence of poverty at 26.6%. The percentage of individuals living in poverty statewide was 14.7%, a figure not much higher than that of the county. However, Orange County’s poverty rate is higher than the US average of 13.3%.¹⁰⁶ Orange County poverty numbers are skewed by the UNC students, who have little to no income, and are counted in the census. (See Chapter 4: Income and Poverty for more detail.)

From 2003 to 2005, North Carolina had a food insecurity rate of 13.2%, a percentage that ranked it the 8th worst place. The very low insecurity rate (which includes the percentage of those who live in hunger) was 4.5%, ranking North Carolina as the 11th worst place for low food insecurity.

In the 2005-2006 year, the Orange County Department of Social Services intake unit conducted more than 14,000 assessments for services. Almost \$8 million dollars in food stamp aid was provided to an average of 2,987 households and 6,275 individuals monthly, an increase of over 8% from the 2004-2005 fiscal year.¹⁰⁷

The Interfaith Council for Social Service provided 85,035 meals in fiscal year 2005-2006, with the help of over 500 volunteers and more than \$650,000 in food donated by individuals and businesses. This number was an all time high for the Community Kitchen. Their food pantry provided 7,726 bags of food which fed 7,187 people, and they provided an additional 755

¹⁰⁵ 2006 Hunger Study, America’s Second Harvest,

http://www.hungerinamerica.org/who_we_serve/Food_Insecurity/index.html

¹⁰⁶ 2006 American Community Survey, American FactFinder, US Census Bureau,

http://factfinder.census.gov/servlet/STGeoSearchByListServlet?ds_name=ACS_2006_EST_G00_&_lang=en&_ts

¹⁰⁷ Orange County Department of Social Services Annual Report 2005-2006,

http://www.co.orange.nc.us/socsvcs/information_and_statistics.asp

holiday meals for 3,122 individuals. A total of 3,500 requests for food, financial assistance, and help with utilities were granted as well.¹⁰⁸

The Food Bank of Central and Eastern North Carolina (FBCENC) serves the Orange County population. Their data showed that in 2003, 12% of children in Orange County were living below the poverty line. The overall poverty rate for all individuals and families in the county has risen significantly since then (see above), so the poverty rate for children has no doubt risen as well. This makes the work of the FBCENC and its partner agencies especially important to the health of children and adults in Orange County; the need is increasing at staggering rates. In the 2000-2001 fiscal year, the Food Bank distributed 101,613 pounds of food valued at \$151,613. By comparison, in 2005-2006, the figure was 825,144 pounds of food valued at \$1,237,716. During this five-year period, therefore, the Food Bank experienced a food distribution growth of 712.1% in Orange County. Also during 2005-2006, the Blue Cross and Blue Shield of North Carolina Kids Cafe Program served over 1,880 meals to children at risk of hunger. Volunteers contributed over 90 hours of volunteer service. This program served a total of 50 children.

Orange Congregations in Mission (OCIM), a non-profit ministry in Northern Orange County, offers several programs to assist residents with emergency needs. OCIM delivers an average of 40 meals per day to Northern Orange residents through their Meals on Wheels program. The Meals on Wheels program provides meals to individuals who are homebound (they cannot drive), are home alone during the day, and do not have someone available to prepare meals for them. Meals are served at lunch time Monday thru Friday. OCIM also runs a Food Pantry, which served approximately 5,000 residents in Northern Orange County in 2007, 4,000 of which received groceries or food assistance only.¹⁰⁹

Orange County and Chapel Hill-Carrboro City Schools also provide a free or reduced lunch. For the 2006 school year, the Orange County schools provided free lunches for 6,743 students, representing 32% of the student body.¹¹⁰ In the CHCCS system, approximately 2,213 students received a free or reduce lunch on any given day making up approximately 20% of the students in the CHCCS system.¹¹¹

Disparities

The same factors that operate in the area of income, poverty and employment are at work in the tendency of an individual or a family to experience food insecurity or hunger. Because of the economic disparities, single mothers are more vulnerable, as are children, the elderly, the disabled and minority racial and ethnic groups.

Community Survey Results¹¹²

The results of the 2007 Community Health Assessment survey reveal that county residents are very concerned about economic issues and the related health implications of living in, or on the edge of, poverty. When presented with a list of social concerns and asked to select their three most pressing concerns, affordable health care access was the most frequently

¹⁰⁸ The Inter-Faith Council for Social Service, Annual Report 2005-2006, <http://www.ifcweb.org/final2006annualreport.pdf>

¹⁰⁹ Personal communication from Kay Stagner, OCIM, November 2007

¹¹⁰ Personal communication from Donna Williams, Healthful Living Director, Orange County Schools, July 2007

¹¹¹ Personal communication from Stephanie Willis, Chapel Hill-Carrboro City Schools, October 2007

¹¹² These data are from the Orange County Community Health Assessment survey conducted by the Orange County Health Department, April, 2007. See appendix for survey content.

chosen, followed by homelessness (see section on Housing & Homelessness). Making ends meet was ranked fourth, as illustrated in the graph below.

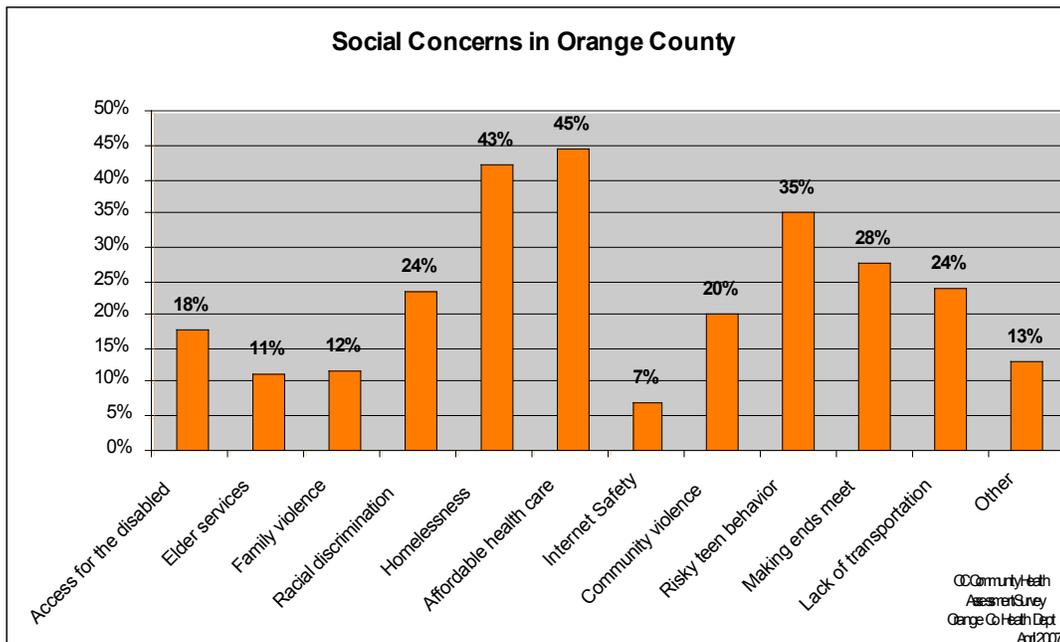


Figure 4, C4-1: Responses to the survey question, “Which of these things stand out for you as important social issues in Orange County? Choose three.”

The survey also bore out the data above regarding food insecurity in Orange County and North Carolina. In response to a series of questions about food insecurity, 12% of Orange County residents replied that they worry their food will run out before they can afford to buy more, and 16% feel they cannot afford to eat balanced meals. Ten percent said that they had cut the size of their meals, skipped meals or cut back on food because there was not enough money for food. While many Orange County residents bring home a more than adequate wage, others in the community are struggling to get enough to eat.

Resources

There are many sources for food assistance in the county including the Inter-Faith Council, Orange Congregations in Mission, the Food Bank of Eastern and Central North Carolina, Department on Aging, Meals on Wheels and the Department of Social Services (DSS). There are also many additional sources at the state and federal level, information about which can be obtained at DSS. See the America’s Second Harvest 2007 Almanac section for a comprehensive listing of state specific and federal resources.

Gaps and Unmet Needs

While there are a large number of food programs and resources as seen above in the data section, many Orange County residents remain in need of food assistance. One area of concern is the under use of programs like the Summer Food Service Program for school age children. National data from the America’s Second Harvest website indicates that “During the 2005 federal fiscal year, 17.5 million low-income children received free or reduced-price meals through the National School Lunch Program. Unfortunately, just under two million of

these same income-eligible children participated in the Summer Food Service Program that same year.”¹¹³

Emerging Issues

As noted above, more and more clients are seeking assistance each month and each year. Those who fall into the food insecure category are vulnerable to rising costs of housing and fuel prices, the inability to qualify for public benefits due to having an income above the poverty line, and health or other unexpected crises. America’s Second Harvest reports that 65% of food pantries, 61% of community kitchens and 52% of shelters in their A2H National Network have reported steady increases in clients since 2001 (see FBCENC data above). Also as mentioned earlier, the working poor are increasingly in need of food assistance. Most food pantries report that many of their clients have at least one working adult in their household. National data from America’s Second Harvest shows that almost 28% of their clients have at least one working adult in the household.¹¹⁴

D) Crime and Safety

Healthy Carolinians Objectives related to a safe and secure community are:

Provide a safe and secure community that supports mutual respect for all residents and property and contributes to improving the quality of everyone’s life

(This essential component includes: public safety infrastructure, law enforcement, fire safety, crime reduction, intentional injury prevention)

Impact

In the 2003 Healthy Carolinian’s Community Health Assessment, residents often stated during focus groups that they found Orange County to be a safe, secure place to live. However, service providers and community residents alike noted that, where crime does exist, it tends to co-occur with other social and health problems, and is related in complex ways to the disparities that exist in our community. In 2007, public safety and law enforcement agencies concur that similar assumptions and disparities still exist in the community. However, there is agreement that the drug problem in Orange County is a much more serious and wide-spread issue that crosses all socio-economic lines. The Department of Juvenile Justice (DJJ) officials see younger children using substances and see a direct link to entire families with substance abuse problems. Local emergency medical (EMS) officials have seen marked increase over the past 3 years in calls involving repeat drug-related calls to certain families.

Contributing Factors

Orange County law enforcement agencies are noticing an upswing in the number of crimes committed by those in or affiliated with gangs. These crimes appear to be crimes related to affiliation and/or funding opportunities. There have also been recent challenges presented to the community due to statewide mental health reform that have created barriers to juveniles and families in accessing quality mental health and substance abuse treatment in a timely fashion. The influence of a major university has always influenced the community norms around substance use in Orange County. The “college-town” mentality creates an attitude of wider acceptance of under-age substance use and greater tolerance of public behavior regarding substance abuse. In the past four years we have seen a shift of these community

¹¹³ America’s Second Harvest, Hunger Fact Sheets, accessed September 13, 2007, at http://www.secondharvest.org/learn_about_hunger/fact_sheet/

¹¹⁴ Ibid.

norms. Recent high-profile court cases and fatalities involving young people have brought this issue to the forefront. Several initiatives have been generated in Orange County to combat this trend. Other current contributing factors include a migration of town residents to the rural areas of the county and sometimes the subsequent annexing of these areas. This has created an expectation of a certain level services within these areas that is often unmet due to lack of resources.

Data

The following data was contributed by the law enforcement and public safety agencies serving Orange County: Chapel Hill Police Department (CHPD), Carrboro Police Department (CBPD), Hillsborough Police Department (HBPD), University of North Carolina Department of Public Safety (UNCDPS) and the Orange County Sheriff's Office.

Number of Agency Response Calls					
	CHPD	CBPD	HBPD	UNCDPS	Sheriff
2003	33,925	15,919	N/A	19,489	36,814
2006	37,169	18,394	8,400	12,540	37,760
% </>	> 9%	> 15.6%		< 36%	> 9%

Table 4, D-1: Number of Public Safety Agency Response Calls.

Index crime rate¹¹⁵ per population of 100,000 reported by Orange County Law Enforcement. Index crimes include murder, rape, robbery, aggravated assault, burglary, larceny, motor vehicle theft, breaking and entering.

2003	2004	2005	2006
4694.7	4532.3	3911.6	4807.4

Table 4, D-2: Index Crime Rate per Population of 100,000 Reported by Orange County Law Enforcement

In the fiscal year 2005-2006, the Division of Community Corrections supervised 845* offenders in Orange County on probation, parole, or post-release supervision. The leading offenses for these individuals were: assault (54), driving while impaired (72), larceny (32), drug possession (53), other traffic violations (67), breaking and entering (27), fraud (12), forgery (4), and other sexual offenses (7). Although most of the offenses remained fairly consistent in numbers, there have been noticeable decreases in Assault, Larceny, and Forgery in the past three years. Drug testing of the 539 offenders ordered to have routine testing by the courts showed nearly 50% tested positive for some type of drugs while under supervision, with marijuana and cocaine use being predominant.

**Number of supervised offenders in 2003 Community Health Assessment included both Chatham and Orange numbers.*

In fiscal year 2005-2006, 270 juveniles were charged with 531 crimes. The leading offenses for these juveniles were: Simple Affray (58), Simple Assault (54), Injury to Personal Property (36), Injury to Personal Property in excess of \$200 (35), Misdemeanor Larceny (34), Felony BE (25), and Communicating Threats (25). There were 15 juveniles detained but no Youth Development Commitments.

The table below shows crimes for 2004-2006. These statistics were compiled from information reported to campus police, hospital police, the Department of Housing and

¹¹⁵ NC SBI Crime Statistics website

Residential Education, The Dean of Students Office, the Student Health Service Women's Health Clinic, the Study Abroad office, and law enforcement agencies in the jurisdictions where the University owns or controls property used for programs involving students, including the towns of Chapel Hill and Carrboro.¹¹⁶

LOCATION	YEAR	Murder & Manslaughter	Robbery	Arson	Sex Offense	Aggravated Assault	Burglary	Motor Vehicle Theft
Campus	2006	0	2	1	12	16	29	2
Campus	2005	0	3	0	13	5	41	4
Campus	2004	1	4	1	8	4	28	14
Non-Campus	2006	0	1	0	0	2	23	3
Non-Campus	2005	0	2	0	0	2	25	5
Non-Campus	2004	0	2	0	1	4	26	3
Res. Halls	2006	0	0	0	8	1	2	0
Res. Halls	2005	0	1	0	10	1	5	0
Res. Halls	2004	0	1	0	7	0	12	0
Public Prop.	2006	0	5	0	0	10	0	3
Public Prop.	2005	0	3	0	3	6	10	4
Public Prop.	2004	1	4	0	0	4	8	18

Table 4, D-3: UNC Campus Security Report

During the 2004-2005 (most recent data available) school year, there were 475 suspensions in Chapel Hill/ Carrboro City Schools and 904 suspensions in Orange County Schools. There were no long term suspensions in Chapel Hill/Carrboro City Schools and four in Orange County Schools.

The Chapel Hill-Carrboro City Schools and Orange County School students were asked several questions related to crime and safety in schools. Below are their responses.^{117,118}

- 5.3% of CHCCS middle school students, 5.5% of CHCCS high schools students, and 9% of students in Orange County (OC) Schools reported not going to school because they felt unsafe.
- 38% of CHCCS middle school students, 18.5% of CHCCS high school students, and 25.6% of OC students were in a physical fight at school.
- 31.1% of CHCCS middle school students and 24.1% of CHCCS high school students reported being harassed or bullied on school property.
- 7% of CHCCS middle school students, 5.6% of CHCCS high school students, and 15% of OC students were threatened or injured with a weapon while on school property.
- 32.8% of CHCCS middle school students, 28.7% of CHCCS high school students, and 13.2% of OC students have had someone steal or deliberately damaged their property while at school.^{119,120}

¹¹⁶ UNC Campus Security Report. Accessed on October 7, 2007 at <http://main.psafety.unc.edu/securityreport>

¹¹⁷ 2007 Youth Risk Behavior Survey, Chapel Hill-Carrboro City Schools

¹¹⁸ 2006 Communities that Care Survey, Orange County Schools

According to the school system's End-of-Year reports, Chapel Hill-Carrboro City Schools counseled 27 elementary students, 32 middle school students and 2 high school students about bullying and violence at school; and Orange County Schools had 9 elementary school, 28 middle school and 91 high school encounters of bullying.

Disparities

Disparities continue to exist between the northern and southern part of the county. Citizens in the northern part of the county reported in 2003 more often than the southern part that drug sales were a neighborhood problem that needed urgent attention. Law enforcement reports an increase of drug activity over the last three years countywide. In 2003 residents from the northern part of the county were also concerned about the fact that emergency response times to their homes often took longer than they thought response times to more urban locations might take. This continues to be an area of concern as there has been a marked increase of rural development in Orange County. Public safety officials report there is an expectation of a similar level of service by those who have moved away from urban centers. Often public safety resources have not kept pace with these changes.

Community Survey Results¹²¹

As part of the 2007 Community Health Assessment, Orange County residents were surveyed about their beliefs and opinions about a number of health issues, including Crime and Public Safety. Although residents are clearly aware of and concerned about crime in the community, 86% agreed with the statement "Orange County is a safe place to live." The remaining 14% was divided equally between the "Disagree" and the "Don't know" responses. When presented with a list of Social Issues and asked to their top three concerns, 20% of those surveyed listed Community Violence as one of the three. This ranked seventh out of a list of twelve, placing it almost squarely in the middle. Family violence was also one of the choices, and it ranked tenth on the list.

Crime was also a cause for concern among those who were asked to name their reasons for not being more physically active. Six percent of those surveyed cited a lack of safe places to walk as a barrier to exercise.

There was also a survey question designed to get opinions from community members about their level of concern about different types of violence. As the graph below shows, residents are extremely concerned about violence in the media, which was defined as violence on television, in the movies and in video games. In all likelihood, this represents the widely held belief that violence in the media is a contributor toward violent behavior.

¹¹⁹ Chapel Hill-Carrboro City Schools End-of-Year Report, 2006-2007 School Year

¹²⁰ Orange County School System End-of-Year Nurse's Report, 2006-2007 School Year

¹²¹ These data are from the Orange County Community Health Assessment conducted by the Orange County Health Department, April, 2007. See appendix for survey content.

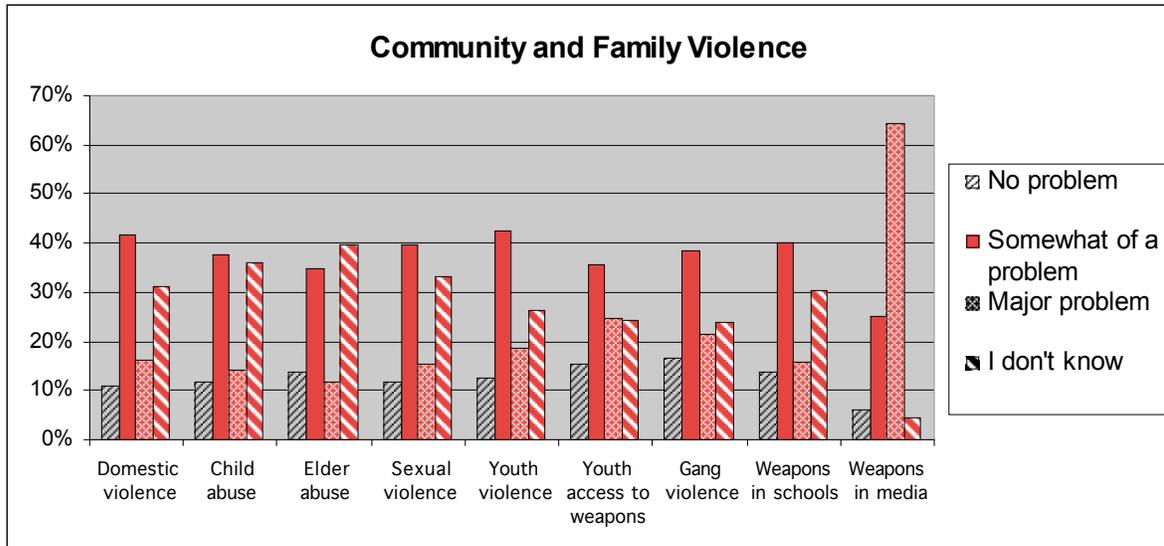


Figure 4, D-1: Responses to the survey question, "I'll ask you about several kinds of violence, please tell me if you think it is not a problem, somewhat of a problem, a major problem or if you don't know."

Resources

There are six law enforcement agencies that serve Orange County. These include Carrboro (CBPD), Chapel Hill (CHPD), Hillsborough (HBPD), Orange County Sheriff's Office, UNC Department of Public Safety (UNCDPS) and UNC Hospital Police. Neighborhood watch groups continue in some areas, and report their successes. The community sub-stations in some public housing neighborhoods continue to be an asset. The following Orange County law enforcement agencies provided staffing levels from 2003 and 2006:

	CHPD	CBPD	HBPD	UNCDPS	Sheriff
2003	110	36	25	46	134
2006	118	38	28	50	135

Table 4, D-4: Law Enforcement Staffing Levels

In Judicial District 15-B, which includes Orange and Chatham Counties, the Division of Community Corrections provides supervision of criminal offenders and promotes public safety in the community. Through the use of various programs, such as Intensive Supervision, Electronic House Arrest, the Drug Treatment Court, and the School Partnership Program, the staff of community corrections works to reduce recidivism and assist offenders in being productive members of society. The division also provides specialized supervision for certain special offender populations, including Sex Offenders, Community Threat Groups, and Domestic Violence Offenders. The community corrections staff in Orange County includes a total of 19 employees, who are divided between two (2) units, one in Hillsborough and one in Carrboro.

Orange County is also part of the Orange Chatham Justice Partnership (OCJP), a collaboration of local, state and federal agencies working together to develop community-based programs that address court-imposed sanctions and treatment needs of both adult and juvenile offenders in Judicial District 15B. The partnership provides oversight and funding for a variety of programs, including substance abuse treatment, case management, community service, and restitution.

Various other resources exist to aid in the reduction of crime, assist victims, and improve provision of services to help offenders become contributing members of society. These include the school resource officers program, community policing, special courts, such as two drug courts, a mental health court and a teen court. There are programs such as Volunteers for Youth, Project Turnaround, and the Dispute Settlement Center that provide needed services in the community. Orange County continues to benefit from the cooperative stance of our justice and mental health system. There are also programs that advocate for victims of crime including the Guardian Ad Litem program that works with child victims, and court advocates provided by the Rape Crisis and Family Violence Prevention Centers.

In terms of public safety services, Orange County has 12 Fire Departments which operate across the county; four of them are completely volunteer: Caldwell, Cedar Grove, Efland and White Cross. The remainder has a mixture of paid staff and volunteer staff. These are; Chapel Hill, Carrboro, Orange Rural/Hillsborough, Eno, Mebane, North Chatham and New Hope. There are 250 volunteer firefighters in Orange County. The Emergency Management Services employs over 150 people including the Fire Marshall and, operates 911, emergency medical services, disaster response, and special operations response, (such as Halloween on Franklin Street, basketball and football games, race tracks, etc.) and includes the ambulance service for Orange County.

An emergency preparedness team continues to help coordinate services in the case of emergencies such as the ice storm of 2002. This team is working together to assure that residents will be safe during emergencies and has a particular focus on reaching members of the Hispanic community with information to help them understand the state of emergency.

In addition to traditional policing roles, public safety agencies offer additional program such as:

1. Community Services Units- Facilitates and coordinates community watch programs, fraud prevention, crime prevention, gang prevention, security surveys, operation id and affiliated programs.
2. Traffic Units-promotes traffic enforcement and safety.
3. Crisis Units-provides crisis intervention and follow-up. Includes victim services, special population services, counseling and resource connection.
4. Housing Liaisons-coordinates with Public Housing Department in the development of programs for youth and residents within the housing community.
5. ALE Liaison Officers- Involved in alcohol related code enforcement, prevention and educational programs. Along with this comes enforcement of alcohol law and compliance checks.

Gaps and Unmet Needs

In the 2003 community assessment, providers from various settings lamented the scarcity of support available to them when dealing with a client who may be suicidal or homicidal. All public safety representatives concur that new agreements among law enforcement agencies and the hospital have greatly improved this concern. Also in the 2003 assessment, the public safety sector was concerned, while citizens here report feeling safe and secure most of the time, our county would be ill-prepared to face a catastrophe. Since that time several initiatives have been launched to address these concerns. Although the community consciousness may have been raised as to threats of terrorism, pandemic, weather catastrophes and the increased prevalence of meth labs, often public safety staffing levels have not increased enough to adequately prepare the community for these possible events.

Public safety staffs are often required to take on multiple responsibilities in an agency creating high stress for personnel. As small municipalities, Orange County's public safety agencies cannot compete with larger adjacent geographic areas as to employee salaries and benefits. Personnel retention and turn over are an ever increasing problem in Orange County.

Regarding Juvenile Justice issues, according to Risk and Needs assessments performed on juvenile offenders, youth are exhibiting assaultive behaviors, many are using illegal substances, have frequent suspensions from school and are associating with peers who lack prosocial behaviors or who are delinquent. Many parents report that they are unable to supervise their youth.

Emerging Issues

As the population continues to grow, public safety officials urge the community not to become complacent in our planning for public safety staffing and funding. A large, diverse population will bring with it changing public safety needs. Public safety services are doing more to provide their services in Spanish; given the crucial nature of those services, it will become more and more important that they truly operate a bilingual service.

Gang related crime and issues: Chapel Hill Police Department reports an upswing in gang related activity. Validation is difficult due to the subjectivity involved in identifying gangs and their actions. Generally reliable identifiers are graffiti and/or tagging within the community. Carrboro Police also reports a noticeable increase in these displays. Additionally, tattoos and past history are generally reliable. Less reliable, are word of mouth indicators and clothing choices. There has been one homicide that involved known gang members. Clearly, this is a topic that our community has questions about. The best choices for addressing gang growth are education of youth and parents. Officers are being trained in this area educating citizens and giving advice concerning gang-related issues. Education and early intervention in regard to the dangers of gangs is paramount in slowing the spread of gang activity. Additionally, programs offering youth positive alternatives are very successful. Finally, strong enforcement with subsequent diversion is a last but often necessary option.

Increased drug activity: Carrboro Police Department reports: There has been a tremendous change in the drug culture here in Carrboro. Just 5 years ago, when Carrboro Police Department executed a narcotics search warrant, seizing 20 "rocks" of crack cocaine would have been considered a successful raid. In today's drug environment, it is not unusual to get a kilo of cocaine or marijuana. While there are certainly local "players" still involved in the drug scene here, there has been a large influx of Hispanics into the narcotics field as well. It is very difficult to investigate drug dealers that have no positive identification or permanent address. Due to the larger amounts of narcotics that have recently been recovered, federal agencies are more frequently involved.

Identity theft and fraud: Chapel Hill Police Department report that there has been a huge increase in fraud and identity theft in our area. Much of this is related to the modern data driven society we live in. Access to computers and other high tech gadgetry helps facilitate this crime. Prevention programs with emphasis on document and information protection are the best way to fight this problem. We are constantly looking at new technology and training to assist us in mitigating this problem.

Illegal immigrants: Carrboro Police Department reports: During the past few years, there has been a large increase in Carrboro's Hispanic population. A recent check of Carrboro PD's warrant list indicated that 63% of the warrants on record were for Hispanic males.

E) Child Care

The Healthy Carolinians Objective related to child care are:

There are no Healthy Carolinians objectives related to child care.

Impact

Access to affordable, quality child care, has a direct impact on residents' social, economic, and physical health. Without it, parents struggle to find employment that fits their schedules, struggle to choose between bills, and may leave younger children at home unattended or in the care of slightly older siblings rather than give up employment. Finding and paying for child care has a large impact on Orange County residents: according to the Child Care Services Association website, Orange County was the county with the highest per-capita rates of child care use in the state last year.¹²²

Contributing Factors

Affordability and quality are the two most important factors that intersect to determine access to child care. Affordability is a major issue – the cost of high-quality center-based care in Orange County averaged from \$799 a month for 5 year olds up to \$952 per month for infants. Spread across a 40-hour work-week, those fees equate to roughly \$4.60 - \$5.50 per hour, which is more than minimum wage.¹²³ While financial assistance is available for some, funds are simply not available for all those who need assistance and hundreds of children are currently on the waiting list for subsidy. Continuing state budget cuts are also cutting into child care funds in counties across the state. Cuts in subsidies are exacerbated for low-wage workers in Orange County because reimbursement rates through DSS vouchers and eligibility rates for Head Start are set at the state level, yet the costs of child care in this county are the highest in the state,¹²⁴ leaving families with higher costs to bear.

Quality of child care is also a major issue. Child Care Services Association (CCSA) uses the state's five-star rating system to connote those child care programs offering high-quality care. Research has shown that young children benefit from high quality child care and will be more ready for school as a result. Currently, 87% of all of our Orange County's child care programs are rated three star or higher.¹²⁵ However, not all families can access high quality programs because of the high cost.

Data

Orange County currently has 79 Child Care Centers and 40 Family Child Care Homes. At the end of July 2007, 4,284 children ages birth – twelve years of age were enrolled in child care centers and another 187 were enrolled in family child care homes. Child Care Services Association (CCSA), with funds from the Orange County Partnership for Young Children (Smart Start), the Triangle United Way, the University of North Carolina at Chapel Hill, county and town governments and private contributions, provides the largest private child care

¹²² From Child Care Services Association Website. Accessed on September 4, 2007 at <http://www.childcareservices.org>

¹²³ Ibid

¹²⁴ Ibid

¹²⁵ Ibid

subsidy program for families in Orange County. The county department of social services (DSS) also provides over \$3 million annually in public funds for child care subsidies. Together, CCSA and DSS currently support child care subsidies for 915 children.¹²⁶

Resources

Child Care Services Association is our local service coordinator, providing staff training, child care referral services, and scholarships to hundreds of families in the county each year. CCSA coordinates with Orange County DSS and Early Head Start/Head Start programs to help families who need financial assistance through scholarships and sliding-scale programs.

Head Start and Early Head Start are federally funded programs available in Orange County to serve families earning below the federal poverty guidelines. Eligible families receive free child care and a variety of services designed to meet the medical, dental, nutritional and mental health needs of participating children. Head Start serves children ages three and four years old. Early Head Start serves children from infancy through two years old. Early Head Start gives special priority to teen parents. Head Start provides full-day care at the Chapel Hill-Carrboro School sites.

The Orange County Partnership for Young Children, the local Smart Start agency, provides funding to a variety of programs to help improve the quality and affordability of child care for children age birth to five. They help with funds to train child care teachers, improve the wages of child care workers, who are one of the lowest paid professions, and help with child care subsidies administered through CCSA. The Partnership administers the state's *More at Four* Program that provides a preschool program for disadvantaged, four-year-old children in Orange County. Smart Start also funds a child care health consultant through the Health Department to promote the health and safety of children in child care.

Disparities

As mentioned above in contributing factors, the cost of care is extremely high. Families who are not eligible for subsidy, or are on the waiting list for subsidy, and who cannot afford higher rated quality care for their children, may be forced to place their children in unlicensed child care settings or with family members. In an unlicensed setting, children may not be exposed to as positive and stimulating a learning environment as in licensed and higher rated child care settings, and therefore these children may not be as well prepared to enter school.

Community Survey Results

Residents were not asked about child care services in the 2007 survey. However, in the 2003 survey, residents recognize that the lack of affordable child care is a barrier to many families' continued economic success. Providers and residents also recognize the challenges associated with a lack of child care for older children. Although after-school care in middle school is free, families with children in the elementary grades must pay for after school care, so parents of young children who cannot arrange their work schedules to match the school's, must either pay for additional care, or leave elementary-age children at home alone or in the care of slightly older siblings. This is a less than ideal situation that could be addressed by providing free or low-cost after-school care at each elementary school.

Gaps and Unmet Needs

¹²⁶ Ibid

There are often not enough vacancies for infant and toddler care. As mentioned elsewhere, the cost is high and there are hundreds of families on the waiting list for child care subsidies. Please see more above in 'contributing factors'.

Emerging Issues

Department of Social Services vouchers, the availability of federally subsidized programs like Head Start, and CCSA scholarships help low-income families pay for child care, but they are not enough. Low-income families in our community are falling into crisis when the waiting list for child care programs outgrows their ability to wait any longer. High quality child care is expensive, and therefore more funds are needed to ensure that parents with young children can both work and provide good quality care for their children.

In addition, child care teachers receive very low pay, despite increasing educational requirements, and many have little to no benefits such as health insurance. This could discourage qualified individuals from working in the child care field and will over time effect the quality of child care services available.

F) Recreation

The Healthy Carolinians Objective related to recreation are:

There are no Healthy Carolinians objectives related to recreation.

Impact

The availability of recreational opportunities affects the mental and physical health of residents greatly. Provision of a wide range of recreational opportunities can provide outlets for residents with many different interests and provide opportunity for social interaction as well.

Contributing Factors

In order to enjoy Orange County's recreational opportunities, residents need to know about them, have access to them, and feel safe using them. In many ways, our county is doing a good job of providing recreational opportunities to citizens. Opportunities exist for a variety of recreational activities, from art to yoga, and serve our youngest and oldest residents through parks, senior centers, and community spaces like the Arts Center in Carrboro. Access to some of these opportunities, however, can be limited for those who lack a reliable method of transportation. Affordability is also a barrier to access to some types of recreational opportunities. As discussed further in the section on physical activity, the high costs of membership in a health club are prohibitive to many. On the other hand, there are many free parks and walking trails.

Similarly, while local municipalities provide some free cultural recreation opportunities (such as "Hog Day" and "Cool Jazz Festival"), other opportunities offered by private ventures are prohibitively expensive to all but our wealthiest residents. As discussed in the chapter on public safety and others, most residents feel that this is a safe community. Presumably this helps residents feel comfortable using recreational facilities like public parks.

Data

The Orange County Recreation and Parks programs serve thousands of residents each year through classes, camps and athletic activities for children, teens and adults. There are programs targeted for special populations as well. The county and town Recreation and

Parks websites have listings of all recreational opportunities and the cost, if any, associated with them.

The Department on Aging provides a broad range of wellness activities through their five Senior Center locations. These include physical activities such as aerobics, yoga, Tai Chi and strength training as well as support groups, wellness screenings and health education programs. In the summer of 2006, there were 1,337 individuals who participated in fitness and other wellness classes, which represents a 9% increase over the 2005 figure of 1,213.¹²⁷

Disparities

Residents without the financial means to pay for unsubsidized forms of recreation have to make the effort to locate those opportunities for recreation that are free. As mentioned above, those without transportation are limited to those opportunities that either provide transportation, are on a convenient bus route, or are close by. Residents with low incomes and without transportation are, therefore, often limited in the opportunities available to them.

A disparity often recognized in the past was the lack of recreational opportunities in the northern part of the county. In December 2004, the Little River Regional Park and Natural Area opened in the northern part of Orange County near the Durham County line. Although part of the park is in Durham County, and it was a joint project, it is managed by Orange. The park features hiking trails, bike trails, horse riding trails, a paved ADA walkway, and a playground and picnic shelter. There are also monthly educational programs for children and families offered at a nominal fee. The park is an excellent addition to the many outdoor recreational opportunities in Orange County.

Community Survey Results¹²⁸

The availability of recreational opportunities in the county is a critical factor in the efforts of Healthy Carolinians to promote increased physical activity. As is discussed in greater detail in the Chronic Disease chapter, particularly the Physical Activity and the Obesity sections, overweight and obesity are becoming increasingly prevalent among both adults and children in Orange County, in North Carolina and across the country.

As part of the 2003 Community Health Assessments, residents participated in focus groups on many health topics, including recreation. Many residents expressed the opinion that improving opportunities for teens to recreate would help address related teen health problems such as drug and alcohol use, antisocial or delinquent behaviors and obesity. The need for recreational activities has become ever more obvious as time has passed and the obesity problem has worsened.

As part of the 2007 Community Survey, residents were asked about their exercise habits and about the obstacles that prevented them from being more physically active. Time was the obstacle mentioned most often (50%). Bad weather was the second most frequently cited (22%), which points to the importance of having convenient indoor recreational facilities as well as parks. A small number of people (4%) said that safety was an issue as well.

¹²⁷ Personal communication from Myra S. Austin, LRT/CTRS, Wellness Coordinator, Orange County Dept. on Aging, August, 2007.

¹²⁸ These data are from the Orange County Community Health Assessment survey conducted by the Orange County Health Department, April, 2007. See appendix for survey content.

Residents have also expressed frustration at the lack of transportation for those at lower income levels and/or without the means or ability to drive a vehicle. As mentioned above, this can be a significant barrier to taking advantage of the wide variety of recreation activities the county has to offer. During the 2007 survey, residents were asked to look at a list of social issues and select the three they felt were of greatest concern to the community; the lack of transportation was cited as one of the top three by 24% of respondents. This figure reflects a ranking of fifth place out of twelve, tied with racial discrimination.

Resources

The County boasts three separate Parks and Recreation Departments offering numerous sports leagues, classes and facilities open to the public. There are also 23 public parks and many miles of walking trails available, including nine greenways in the Chapel Hill-Carrboro area, the Botanical Gardens and in the rural sections of the County, four public tracts of Duke Forest, the Little River Recreation and Natural Area, and the Johnston Mill Nature preserve. There are four parks along rivers, and three include lakes with public access for boating and fishing. Parks and recreation staff from throughout the county report that seniors and children are the most likely people to use formal recreational activities through their programs. There is also Skate Park located at Homestead Park and there are several parks on the horizon as well as a fourth public swimming pool.

Orange County is actively promoting walking and biking, as well as the use of hiking trails, through the expansion of parks, increasing sidewalks and bike lanes, and free bus usage in Chapel Hill and Carrboro. The Orange County Government and the Healthy Carolinians partnership created a comprehensive Recreation Map, which serves as a guide for all the public recreation areas in Orange County. The map is available at all Parks and Recreation Centers, the public libraries, Chamber of Commerce and the Health Department.

Community Gardens:

There are two community gardens located in Orange County. One garden is located in Carrboro at Martin Luther King, Jr. Park, and the other is located at the Chapel Hill Community Center. Additional information can be obtained from the town and county Recreation and Parks websites.

Annual Festivals:

Orange County hosts several annual festivals including:

- The Carrboro Music Festival
- Bluegrass Festival
- West End Poetry Weekend
- Film Festival
- Halloween Carnival
- FestaFall Festival
- Hillsborough Hog Day Festival

New documents and reports released by the recreation and parks departments:

Carrboro

Two new resources:

- Recreation and Parks Comprehensive Master Plan updated for Carrboro – the master plan guide the town in providing the community's future recreational needs.
- Land Management Plan done for Adams Track

Hillsborough

- Hillsborough new Recreation and Parks Master Plan

Recreation and Parks information is available through:

- Each of the recreation and Parks Department websites (Orange County, Town of Chapel Hill and Town of Carrboro) contains information of programs and activities offered.
- Fun Finder: a free booklet available in newspaper kiosks around the area
- Community Sports News
- Visitors Bureau

Gaps and Unmet Needs

As discussed in Chapter 9: Older Adult Health, access to all types of opportunities for seniors, and particularly more isolated seniors, could be improved by culturally appropriate outreach. Recreation is an important part of health, so outreach from recreation services will be just as important as outreach from health services. While teens tend to be less isolated due to their contact with school, they nonetheless struggle to access the myriad of recreational opportunities available due to lack of funding and transportation. Similarly, while opportunities for patrons with physical disabilities are available, they are not widespread enough to account for the various interests and needs of that population.

It is also important to look at how the physical environment impacts access to opportunities for physical activity. There is a need for more sidewalks and bike lanes throughout Orange County, particularly in Hillsborough, in new developments, and in rural areas. Sidewalks and bike lanes would make it easier and safer for residents to walk and bike for exercise or to get from one destination to another.

Emerging Issues

In a society where stress and a lack of balance in life are cited as major health concerns by residents, providing opportunities for recreation and relaxation will become increasingly important. While our county is blessed with a diversity of recreational opportunities, the offerings are not available to everyone, and this will have a detrimental impact on all aspects of their health in the long term.

As the diversity in the County continues to change, will need to consider ways to meet the needs of the growing Latino and Burmese populations such as programming that appeals to them and making Recreation and Park information available in Spanish. Furthermore, creating a centralized location where people can find out information about the programs and activities in the County would make it easier for all residents to utilize the recreation services.

G) Transportation

Healthy Carolinians Objective related to transportation are:

Improve transportation for people without cars or other means of transportation (targeting seniors and under-age drivers), to integrate growth and development with sound transportation policy, and to improve air quality that is threatened by cars and trucks.

Impact

Residents in Orange County, particularly those in the Northern, rural areas, face many barriers to transportation. According to the Community Transportation Association, “nearly 40% of the country’s transit dependent population – primarily senior citizens, persons with disabilities and low-income individuals – resides in rural areas. Yet in many of these

communities, public and community transportation are limited or absent.”¹²⁹ Furthermore, a study done by the Easter Seals, Project Action, indicated that a lack of transportation is one of the most frequently cited problems facing people with disabilities living in rural areas.¹³⁰ While the community has programs and services in place to provide transportation for older residents, residents with disabilities and those who live in rural areas, many residents continue to be isolated and frustrated by the lack of transportation.

Relying on public transportation and help from friends and family makes it difficult for these members of the community to engage in the ordinary activities of daily living, such as grocery shopping, doctors appointments, recreational activities and social engagements. Additionally, without access to these vital services, residents are isolated from family and friends and are unable to participate in community life. This lack of transportation can severely affect residents’ quality of life. Access to adequate transportation services is imperative for many residents to remain independent and continue to engage in activities outside the home.

In the more populated areas of Orange County, Chapel Hill and Carrboro, traffic congestion and air pollution are larger transportation concerns. Public transportation can help reduce the number of vehicles on the road, thus improving traffic congestion and air pollution. See Chapter 12: Environmental Health: Air Pollution for additional information.

Contributing Factors

There are several factors that contribute to lack of transportation for residents. One contributing factor is the cost of owning a car. The price of the vehicle combined with rising insurance rates, maintenance costs, gas prices and county taxes make car ownership a luxury for many County residents. Secondly, some residents are unable to drive due to a disability or choose not to drive as a result of failing eyesight and slowed reaction time, which sometimes occurs due to advancing age. County residents without their own vehicle must rely on public transportation, or on friends or family to get to their desired location.

Data

Seventy-six percent of Orange County residents who work reported driving alone to get to work, a 6% increase from 2001. Approximately 9% of residents reported carpooling to work, which is down 1% from 2001. Another 6% of residents reported use of public transit, up from 4% in 2001, and nearly 5% walk or bicycle to work. The mean travel time to work was 21 minutes.¹³¹ In 2000, the most recent commuter data available, 40% of workers who reside in Orange County commuted outside the county for work, and 37% of Orange County workers reside outside Orange County but commute into the County for work. As a result, the number of commuters and consequent commuter traffic is high.¹³² In total, there are approximately 98,493 automobiles registered in Orange County as of 2006, up from 77,525 in 2001.¹³³

In January of 2002, Chapel Hill Transit, which runs bus service in the greater Chapel Hill-Carrboro areas, was made fare free. As a result, ridership has increased considerably.

¹²⁹ Community Transportation Association: Accessed August 29, 2007 at http://www.ctaa.org/ntrc/is_rural.asp

¹³⁰ Accessible Transportation in Rural Areas: An Easter Seals Project ACTION Resource Sheet; Accessed August 29, 2007 at http://projectaction.easterseals.com/site/DocServer/espa_rural_fact_sheet_.pdf?docID=3198

¹³¹ 2005 American Community Survey: Economic Characteristics, Commuting to Work: Accessed August 29, 2007 at http://factfinder.census.gov/servlet/ADPTable?_bm=y&-geo_id=05000US37135&-qr_name=ACS_2005_EST_G00_DP3&-ds_name=&-_lang=en&-redoLog=false

¹³² LINC

¹³³ Personal Communication, Orange County Tax Office: August 29, 2007

There were a total of 5.7 million riders in 2004-2005, compared to 4.3 million in 2002, an increase of almost 33%. On any given weekday, Chapel Hill Transit fixed routes have an average of 23,500 riders, up from 19,000 riders in 2001. There is some seasonal fluctuation based on the University schedule, with fewer riders in December and during the summer months. Chapel Hill Transit also offers the EZ Rider Service for persons with mobility impairments. This service provides door-to-door transportation on lift-equipped vehicles. In 2006-2007, the EZ Rider service provided transportation for 225 passengers daily.¹³⁴

Orange Public Transportation (OPT) provides approximately 117,000 rides per year. OPT offers an on-demand service to coordinate services for any Orange County resident that needs transportation. They provide direct transportation to the senior centers, nutrition sites, and other special events and groups. They also offer door-to-door service for medical appointments for people over age 65, the disabled, and Medicaid recipients. In addition, OPT operates the Orange Express route starting at the Northern Orange Human Services Center in Cedar Grove and running to Hillsborough and Chapel Hill. This route makes 6 stops in Hillsborough and 8 stops in Chapel Hill including UNC Hospitals. This service costs \$2.00 per one-way trip anywhere in the County. The North-South service averages about 187 one-way trips per day.¹³⁵

The Triangle Transit Authority (TTA) offers bus service between Chapel Hill, Durham, Raleigh, other Triangle towns and the RDU Airport.

Disparities

Residents who live in Chapel Hill and Carrboro often cite the free public transportation provided in those municipalities as a significant benefit, while residents who live in Hillsborough and points north find it very difficult to commute to Chapel Hill and Carrboro for employment, health, or recreational reasons. The Orange Public Transportation system has limited reach into the Northern area of the County. Residents who live in the Northern part of the county and who cannot utilize the on-demand service provided by OPT, must find a way to get from their homes to the public transportation stop at Highway 86. From this point, residents can take the OPT service to Hillsborough, Chapel Hill and the Southern part of the county. However, it can be a challenge for residents to find transportation to and from their homes and the bus stop. While Orange Public Transit (OPT) has improved its services in response to residents' concerns, those without their own transportation still face significant barriers to transportation. This is of particular concern for residents in the Northern part of the County, because the majority of services are located in the Southern areas.

The hours of operation for transit services are also a major barrier, in both the Northern and Southern halves of the County. Residents who rely on public transportation for commuting to work and to recreational activities must plan around the bus schedule. This can be difficult, especially for those who need transportation during 'off-peak' hours. These riders often wait a long time for bus service after five p.m., and are faced with finding their own way after ten p.m., when most bus service ends.

¹³⁴ Personal Communication, Kurt Neufang, Chapel Hill Transit: August 29, 2007

¹³⁵ Personal Communication, Orange Public Transportation: August 29, 2007

Community Survey Results¹³⁶

As part of the 2007 Community Health Assessment Survey, Orange County residents were asked to review a list of social issues and identify the three that they felt were of greatest concern in the community. As the graph below shows, 24% of respondents selected a lack of transportation of one of their top three concerns.

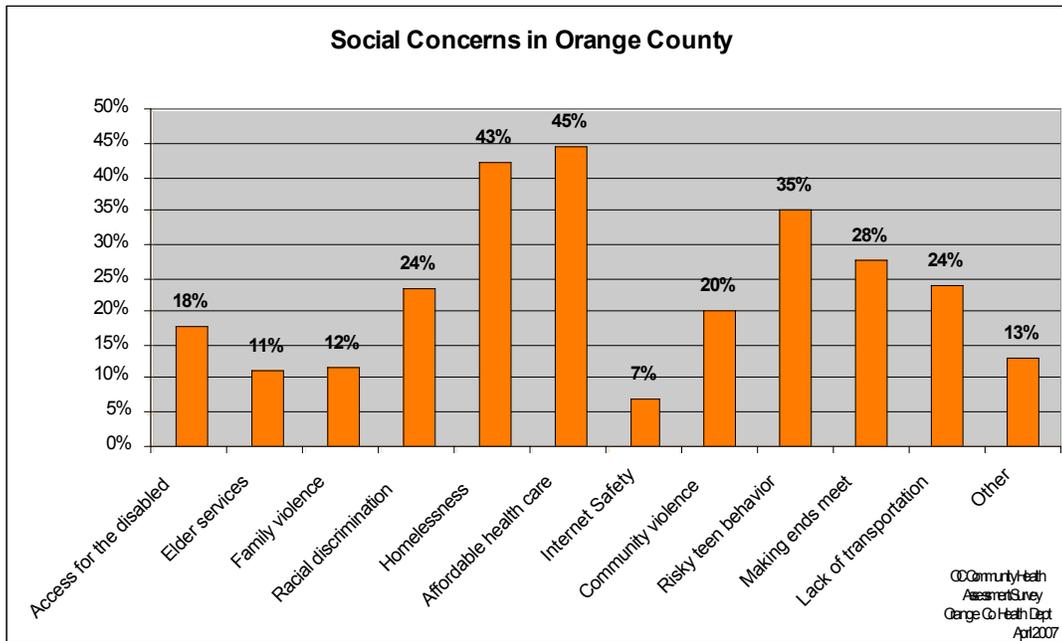


Figure 4, G-1: Responses to the survey question, “Which of these things stand out for you as important social issues in Orange County? Choose three.”

In previous years, community input was obtained by way of citizen focus groups. Residents have consistently cited transportation as a barrier to healthcare, as well as to employment, recreational, and educational opportunities. Teens in the Northern part of the county connected their feelings of isolation and boredom in part to the fact that they are not able to easily get to and from recreational opportunities after school, and seniors often rely on friends and family to take them to medical appointments rather than trying to coordinate transportation from OPT. These challenges continue to be a frustration for many residents; there is clearly an opportunity to expand the transportation options so that all Orange County citizens have convenient access to county services.

Resources

Chapel Hill/Carrboro Transit is an asset to many, particularly those professionals and students who rely on daily access to the university, where parking is scarce. The Chapel Hill Transit system has 31 fixed routes and provides public transportation service throughout the Towns of Chapel Hill and Carrboro and on the campus of the University of North Carolina (approximately a 25 square mile service area). Chapel Hill Transit currently has 83 buses and 11 lift-equipped vans. Service is provided to eight Park and Ride Lots. Eight routes operate on Saturdays, and two on Sundays. The basic hours of operation are from 6:00 am to 7:30 pm. Some evening and weekend service is available. Also an asset is the network of transportation services that Chapel Hill-Carrboro transit provide to the elderly and disabled.

¹³⁶ These data are from the Orange County Community Health Assessment survey conducted by the Orange County Health Department, April, 2007. See appendix for survey content.

Chapel Hill transit offers EZ Rider service (for mobility impaired) and Shared Ride Service (for those who do not receive regular bus service).¹³⁷

Orange County Public Transportation, a division of the Orange County Department on Aging, operates the Orange Bus, which provides a variety of public transportation services to the citizens of rural Orange County outside the Chapel Hill/Carrboro city limits. As a primary transportation resource for the County, Orange Bus has the responsibility to serve residents with transportation needs. Transit options include public bus routes, which serves downtown Hillsborough, Triangle SportsPlex, Chapel Hill North Shopping Center, downtown Chapel Hill, and UNC Hospital. Pick-up and drop-off services are also available for the disabled and elderly. Elderly/Disabled Transportation services provide residents over 60 years of age or disabled residents transportation from their residence to their medical care providers or shopping. The Senior Center/Nutrition Site Transportation offers daily transportation (Monday through Friday) for seniors (60+) to Orange County nutrition sites and Senior Centers. OPT also offers a *Wheels for Work* program to provide donated vehicles to eligible low-income individuals and families in Orange County who are in desperate need of work-related transportation. Residents must qualify to receive these services. Contact the Orange County Department of Social Services for more information on this program.¹³⁸

In addition to the local transportation systems, Triangle Transit Authority (TTA) provides regional public transportation service in the Triangle with connections to Chapel Hill Transit, Durham Area Transit Authority (DATA) and Raleigh's Capital Area Transit System. For more on all these services and links to all of the transit services in the Triangle area, visit the website: <http://www.townofchapelhill.org/transit/index.html>.

Bike lanes and sidewalks are also available in many parts of Chapel Hill and Carrboro for residents who wish to walk or bike to work and other activities. However, sidewalk and bike lanes are nonexistent in other parts of the county making it difficult for most residents to use alternative forms of transportation. New bond referendums were recently passed to expand sidewalk and bike lane development in Chapel Hill and Carrboro.

Gaps and Unmet Needs

Barriers to accessing care such as a lack of transportation emerged as the fifth leading social issue among residents who completed the Community Health Survey (tied for fifth with racial discrimination). This suggests that although residents from the Northern part of the county have relied on community and social supports to help them with transportation; their need is still largely unmet. Public transportation for those who do not have cars of their own is an important part of their ability to access employment and services in our County. Given that the majority of services and opportunities are concentrated in the Southern half of the county, the lack of transportation options available to many in the Northern half is a significant problem.

Emerging Issues

Older adults today are healthier and have longer life expectancies than previous generations. The aging of baby boomers will present Orange County with unique challenges for addressing diverse mobility needs. As the older population increases, so will their mobility

¹³⁷ Chapel Hill Transit Website. Accessed August 29, 2007 at <http://www.ci.chapel-hill.nc.us/index.asp?NID=72>

¹³⁸ Orange County Transportation: Accessed August 29, 2007 at <http://www.co.orange.nc.us/transportation/index.asp>

needs. Therefore, community planning efforts should consider all options for maintaining and improving older adult mobility.

Residents cited air pollution and global warming as two of their top social and environmental concerns. As Orange County's population continues to expand, the County will need to be proactive about finding solutions to contain congestion and reduce air pollution. While improving current public transportation infrastructure is a must, it is also important to continue to provide opportunities for alternative forms of transportation that will reduce the number of cars of the road. See Chapter 12: Environmental Health for additional details about air pollution in Orange County.

CHAPTER 5: CHRONIC DISEASE AND LIFESTYLE ISSUES

Several major causes of morbidity and mortality in Orange County are the chronic diseases of cancer, heart disease, and cerebrovascular disease. Diabetes is also a leading cause of morbidity and mortality in Orange County. Combined, these four health areas are responsible for the majority of hospitalizations, illnesses and deaths in the community. While these disease are linked to hereditary factors and aging, all of them are also strongly related to lifestyle factors such as poor nutrition, physical inactivity and smoking. The financial cost of treating these illnesses is huge, which is why it is so important to address these issues when planning community health initiatives in order to reduce the burden of treatment and more importantly reduce the number of people suffering from these chronic diseases.

This chapter contains the following sections:

Part 1. Chronic Disease

- A) Cancer**
- B) Heart Disease and Stroke**
- C) Diabetes**
- D) Obesity**
- E) Asthma**

Part 2. Lifestyle Issues That Impact Chronic Disease

- A) Tobacco Use**
- B) Nutrition**
- C) Physical Activity**

Part 1: Chronic Diseases

A) Cancer

The Healthy Carolinians 2010 objectives for cancer deaths are:

Reduce the overall cancer death rate to 166.2 deaths per 100,000 population

In Orange County for the period 2001-2005, the death rate for all cancers was 188.8 per 100,000 population.¹

Reduce the colorectal cancer death rate to 16.4 deaths per 100,000

In Orange County for the period 2001-2005, the death rate for colorectal cancer was 16.0 per 100,000 population.²

Reduce the breast cancer death rate to 22.6 deaths per 100,000

In Orange County for the period 2001-2005, the death rate for breast cancer was 25.0 per 100,000 population.³

The Healthy Carolinians 2010 objectives for cancer screenings are:

Increase the proportion of adults who have ever had a colorectal cancer screening examination to 49.8%

The BRFSS for Orange County in 2004 reported that 55.8% of residents interviewed had been screened for colorectal cancer with a home blood stool screening test, and that 65.6% had received either a sigmoidoscopy or colonoscopy.⁴

Increase the proportion of women age 50 and older who have had a mammogram in the last 2 years to 85.2%

According to the 2004 BRFSS, 77.5% of interviewed women age 40 and older had received a mammogram in the past 2 years.⁵

Increase the proportion of women age 18 and older who have had a Pap test in the last 3 years to 94.7%

According to the 2004 BRFSS, 93.8% of interviewed women age 18 and older had received a Pap test in the past 3 years.⁶

Impact

Cancer is the leading cause of death in Orange County, responsible for 864 deaths during the period 2001-2005.⁷ The financial costs of cancer are substantial and include the costs of health care and lost productivity due to illness. Cancers were the sixth leading cause of hospitalization in Orange County in 2005, accounting for 411 hospitalizations for a cost of \$11,139,657.⁸ The burden of cancer can be reduced through prevention and early detection.

¹ 2001-2005 Race-Sex-specific, Age-adjusted death rates for Orange County. From the NC State Center for Health Statistics

² Ibid

³ Ibid

⁴ Behavioral Risk Factor Surveillance Survey, 2004 Orange County, NCSCHS

⁵ Ibid

⁶ Ibid

⁷ 2001-2005 Race-Sex-specific, Age-adjusted death rates for Orange County. From the NC State Center for Health Statistics

⁸ Inpatient hospitalization utilization and charges by principal diagnosis and county of residence, North Carolina, 2005. State Center for Health Statistics

Contributing Factors

The predominant controllable contributing factors are tobacco use, poor nutrition, and exposure to radiation. A lack of education and awareness of screening or delayed screening can also contribute to high rates of cancer death. Likewise, lack of access to treatments or difficulty in accessing treatment options can lead to increased rates of cancer mortality. Age is also a factor in the development of many cancers; with the older population experiencing higher rates of cancer.

Data

There has been an overall decrease in the total number of cancer mortalities and in most types of cancer deaths in recent years in Orange County. In 2005, 185 people died of some form of cancer in Orange County, making cancer the leading cause of death for Orange County. However, the rate of death for all cancers decreased by 12% between the periods 1997-2001 and 2001-2005 (from 214.4 to 189.3). The largest decrease was noted in colon/rectum cancer, where the death rate dropped from 21.8 per 100,000 population in 1997-2001 to 16.1 in 2001-2005, a 26% decrease. Lung cancer and female breast cancer rates also fell by 13% each. Prostate cancer deaths, however, increased from a rate of 36.9 to 38.4, a 4% increase.⁹

Comparison of Cancer Mortality Rates

Year	Colon/Rectum		Lung/ Bronchus		Female Breast		Prostate		Total	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
1997-2001	91	21.8	262	63.2	73	29.3	49	36.9	894	214.4
2001-2005	75	16.1	246	54.8	69	25.3	55	38.4	864	189.3
Change	- 26%		- 13%		- 13%		+ 4%		- 12%	

1997-2001 to 2001-2005

Table 5-1, A-1: Cancer Mortality Rates per 100,000 Population, 1997-2001 to 2001-2005 Comparison. Age adjusted to the 2000 US Census.

Cancer is also a leading cause of morbidity with a total of 411 hospitalizations of Orange County residents during 2005 attributed to cancer, the sixth leading cause of hospitalization that year. The cancer incidence rate for Orange County for 2000-2004 was 520.2 per 100,000, 10.7% higher than the state incidence rate of 469.8 cases per 100,000. The most significant area of cancer incidence was in breast cancer, which occurred at a rate of 196.4 cases per 100,000 compared with a rate of only 144.9 cases per 100,000 at the state level. Orange County showed the highest rate of breast cancer incidence during this 5-year period of any county in North Carolina, with Pitt County having the next highest rate at 181.3 per 100,000. Despite the high rate of breast cancer incidence, the rates of death due to breast cancer have fallen slightly from 29.3 cases per 100,000 in 1997-2001 to 25.3 cases per 100,000 in 2001-2005. The higher incidence rates may be due to increased screening in

⁹ North Carolina Vital Statistics Volume 2, leading causes of death -2005, published by the State Center for Health Statistics

Orange County. Prostate cancer rates were also higher in Orange County than the State, 176.8, 154.7 per 100,000 respectively.¹⁰

Disparities

Cancer deaths among minorities are higher in all areas than for whites. Table 5-1, A-2 (below) shows the differences. The most dramatic disparity is the overall cancer rate for minority males, but the data also show that for each specific type of cancer, the rates are generally higher for minorities than for whites.

Type of Cancer	Rate of Cancer				
	White males	White females	Minority males	Minority females	Overall
All cancers	213.5	155.1	364.7	165.7	188.8
Colon, rectum and anus	19.0	9.1	41.1	20.0	16.0
Pancreas	13.1	10.3	16.2	15.4	12.7
Trachea, bronchus and lung	62.6	49.1	90.5	36.5	54.3
Breast	0	21.8	0	39.1	25.0
Prostate	31.1	0	74.9	0	38.2

Table 5-1, A-2: 2001-2005 Race-Sex-Specific Age-Adjusted Death Rates for All Major Cancers, per 100,000 Population, Orange County, NC

Community Survey Results¹³⁹

In the 2007 Community Health Assessment Survey respondents cancer as the sixth most pressing health concerns. Furthermore, “lack of health insurance” was cited as their most pressing health concern and access to affordable health care was cited as their most pressing social concern. (See Figures 5-1, A-1 and 5-1, A-2 below.) As previously mentioned, cancer is the leading cause of death for Orange County residents. Delayed screening can contribute to higher rates of cancer deaths. Thus it is troubling when those residents who are aware of the need to obtain mammograms, colorectal exams and other screening procedures are not able to afford either the exam itself or the insurance to cover it. Furthermore, if residents are not getting regular check-ups, there may be less opportunity to educate these individuals about the benefits of cancer screening and prevention.

¹⁰ 2000-2004 Cancer incidence rates for all counties by specified sites:
www.schs.state.nc.us/SCHS/CCR/reports.html

¹³⁹ These data are from the Orange County Community Health Assessment survey conducted by the Orange County Health Department, April, 2007. See appendix for survey content.

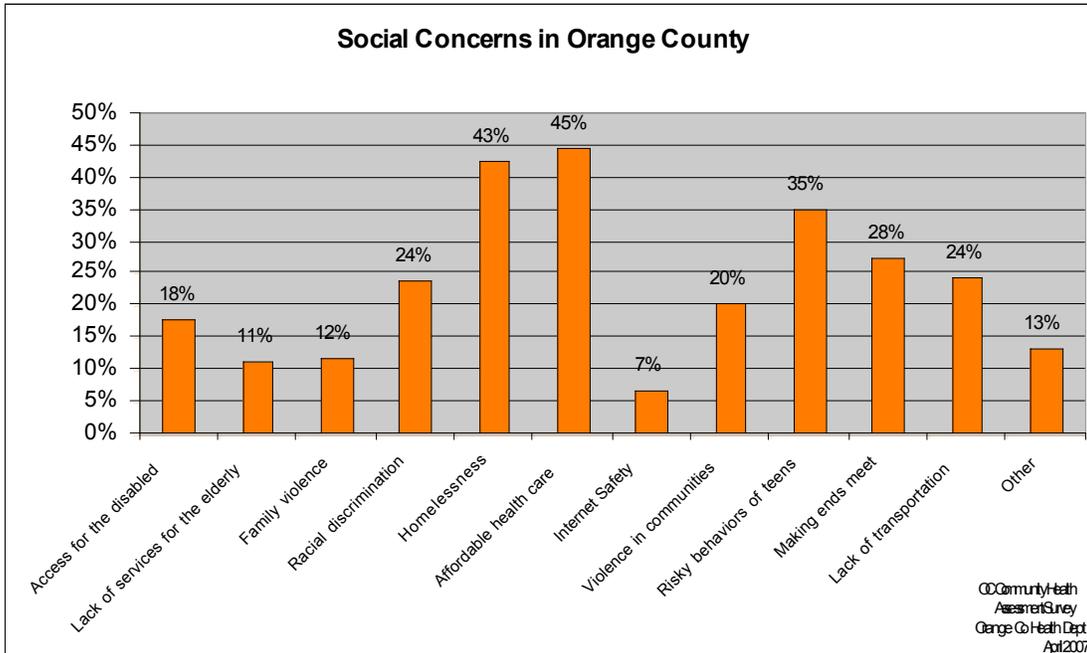


Figure 5-1, A-1: Responses to the survey question, “Which of these things stand out for you as important social issues in Orange County? Choose three.”

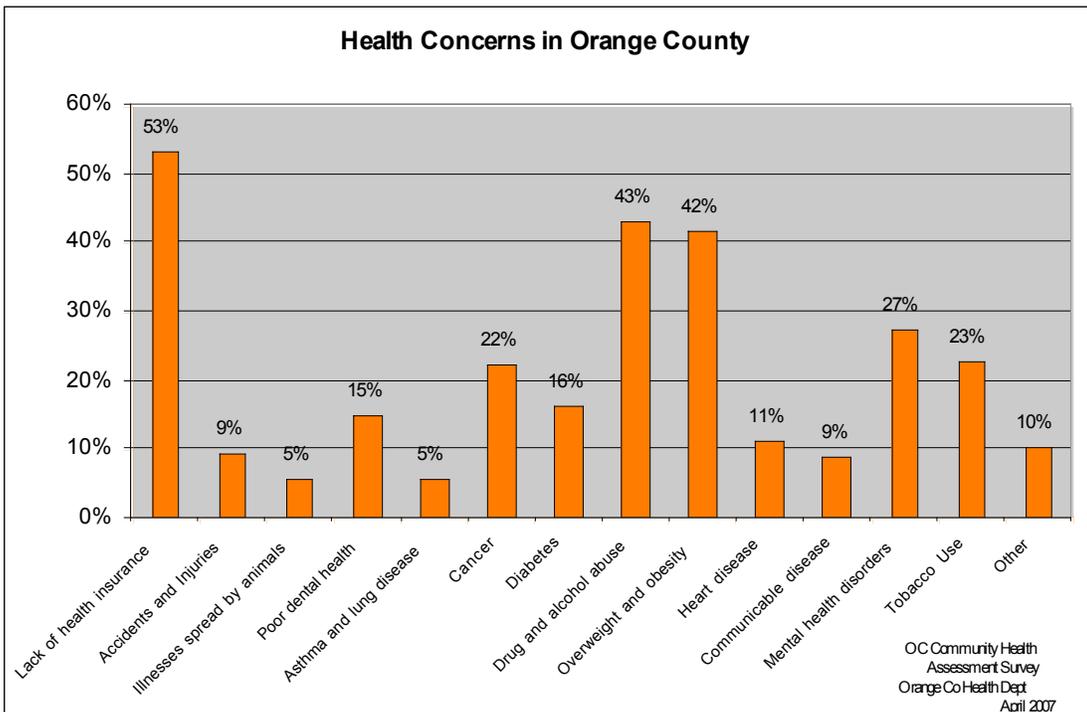


Figure 5-1, A--2: Responses to the survey question “Which of these things stand out for you as important health issues in Orange County? Choose three.”

Another top health concern cited by 23% of those surveyed was tobacco use, which is a leading cause of many types of cancer. (See Figure 5-1, A-2 above.) Of the respondents who reported that they do use tobacco products, many are clearly aware of the costs, both economic and otherwise, as well as the health risks. Survey results also showed that the

majority of Orange County residents believe that secondhand smoke is harmful to their health, but are exposed to secondhand smoke in a number of locations. See Chapter 5: Part 2, A for additional information on tobacco use in Orange County.

In addition to tobacco use, obesity, poor nutrition, and physical activity are also key contributors to many forms of cancer. According to the National Cancer Institute, obesity and physical inactivity increase the risk of several major cancers, including, but not limited to, colon, breast (postmenopausal), endometrial, kidney, and esophageal cancers¹⁴⁰, and that exercise and physical activity have the ability to reduce the risks of some types of cancer, most notably colon, breast, endometrial, kidney and esophageal.¹⁴¹ However, it is evident that many residents may still not understand the relationship between these risk factors and cancer. More research is needed to explain the complex relationship between obesity, diet, exercise and heredity in affecting cancer risk,¹⁴² but enough evidence exists to warrant our highlighting it in this document. Additionally, it is important to note that the need for better nutritional habits and regular physical activity emerge as key themes of this assessment. Additional information on obesity, nutrition, and physical activity in Orange County can be found in Chapter 5: Part 1, D and Part 2, B and C.

Resources

Screening and prevention are the best ways to fight cancer. Detecting cancers early while they can still be treated, through the use of mammograms, pap smears, colorectal and prostate screening, is an effective way to reduce deaths from cancer. The rates of screening reported by the BRFS and shown above under the Healthy Carolinians objectives reveal that the level of cancer screenings in Orange County is quite high. Healthy Carolinians and the Orange County Health Department are working with many partners and community groups to continue to encourage and educate residents about screening as well as cancer prevention through healthier lifestyles: better eating habits, increased physical activity and tobacco cessation.

The presence of UNC Hospitals and the Lineberger Comprehensive Cancer Center in Chapel Hill are excellent resources for residents in Orange County who have health insurance or who can afford care at these facilities. These organizations offer state of the art testing and treatment for numerous health and medical conditions.

Gaps and Unmet Needs

It is important to continue to educate residents about how their health behaviors such as diet, exercise, and smoking affect their risk of cancer. In particular, Table 5A-2, shown above, suggests that there are enormous disparities in cancer rates and that much work still needs to be done to reduce the disparities among minorities in Orange County. More efforts are needed to educate the minority community about cancer prevention, screening, early detection and appropriate treatment in order to reduce the number of deaths due to cancer.

Emerging Issues

New treatments are constantly emerging in cancer research, which are helping people recover and prolong their lives after a cancer diagnosis. New vaccines, such as Gardasil, are also being developed to prevent and protect against certain types of cancer. Age is a

¹⁴⁰ NCI Director's Update, January 20, 2004 – National Cancer Institute website, See URL <http://www.cancer.gov/directorscorner/directorsupdate-01-20-2004>

¹⁴¹ NCI Director's Update, January 20, 2004 – National Cancer Institute website, See URL <http://www.cancer.gov/directorscorner/directorsupdate-01-20-2004>

¹⁴² Ibid.

factor in the development of cancer. Thus, as the population ages, the cancer rates may continue to rise. Prevention is truly the key to decreasing cancer.

B) Heart Disease and Stroke

The Healthy Carolinians 2010 objectives for Heart Disease and Stroke are:

Reduce the heart disease death rate to 219.8 deaths per 100,000 population

The heart disease death rate for Orange County between 2001 to 2005 was 165.3 per 100,000.¹⁴³

Reduce stroke death rates to 61 deaths per 100,000 population

The cerebrovascular disease death rate for Orange County between 2001 to 2005 was 60.1 per 100,000.¹⁴⁴

Increase the proportion of adults who have had their cholesterol checked within the preceding 5 years to 90.0%

In 2005, 93.3% of Orange County residents reported having their cholesterol checked within the preceding five years.¹⁴⁵

Increase the proportion of adults who have had their blood pressure measured within the last year to 95%

There is currently no data source available to determine the number of adults who have had their blood pressure checked, although a reasonable assumption is that persons who saw their physician within the last year would have had their blood pressure taken. According to the BRFSS for 2005, 61.5% of residents said they had a routine check-up in the past year.¹⁴⁶

Impact

Heart disease is the second leading cause of death in Orange County followed by deaths due to cerebrovascular disease or stroke. In 2005 there were 130 deaths due to heart disease and 48 due to cerebrovascular disease.¹⁴⁷ Heart disease and cerebrovascular disease, often resulting in stroke, are the leading causes of hospitalizations in Orange County. These illnesses accounted for 1,206 hospitalizations in 2005, at a cost of \$31,415,230 during 2005.¹⁴⁸ These hospitalizations and the resulting disability account for a significant proportion of health care costs.

Contributing Factors

Elevated blood cholesterol, high blood pressure, family history of heart disease, diabetes, tobacco use, overweight and obesity, physical activity and a diet high in fat and sodium all contribute to increased rates of heart disease and stroke. Secondary factors that contribute to heart disease include stress, low socio-economic status, isolation, depression, and discrimination. Mental health is now being recognized as important in the prevention of heart

¹⁴³ NC DHHS State Center for Health Statistics, 2001-2005 age-adjusted death rates per 100,000 population for Orange County. Available from: <http://www.schs.state.nc.us/SCHS/deaths/lcd/2005/heartdisease.html>

¹⁴⁴ Ibid

¹⁴⁵ NC SCHA. BRFSS. 2005 Survey Results for Orange County. Cholesterol Awareness. Available from: <http://www.schs.state.nc.us/SCHS/brfss/2005/oran/cholchk.html>

¹⁴⁶ NC SCHS. BRFSS 2005 Survey Results for Orange County. Smoking Cessation. Available from: <http://www.schs.state.nc.us/SCHS/brfss/2005/oran/SCGETCAR.html>

¹⁴⁷ North Carolina Vital Statistics Volume 2, leading causes of death -2005, published by the State Center for Health Statistics, accessed on 03 May 2007 at:

<http://www.schs.state.nc.us/SCHS/deaths/lcd/2005/cerebrovascular.html>

¹⁴⁸ Inpatient hospitalization utilization and charges by principal diagnosis and county of residence, North Carolina, 2005. State Center for Health Statistics

disease.¹⁴⁹ Lack of affordability and accessibility of prescription medications that help to lower elevated blood pressure and blood cholesterol also contribute to problems particularly in the senior and uninsured populations. Additionally, women and men may experience different heart attack symptoms, which may cause women and/or health professionals to miss symptoms.

The environment presents many barriers to physical activity and good nutrition, both of which are related to cardiovascular diseases. Neighborhoods that are not conducive to walking, occupational exposure to secondhand smoke, and chronic stress are all part of the environment. Our food choices are also shaped by the marketing environment, availability and accessibility of healthy food choices, and time available to cook and shop.

Data

Orange County has already achieved the Healthy Carolinians heart disease objective of 219.8 deaths per 100,000 with a death rate of 165.3 per 100,000.¹⁵⁰ Orange County also achieved the stroke objective with the stroke death rate from 2001-2005 of 60.1 per 100,000. Despite meeting the Healthy Carolinians objectives, as mentioned above, heart disease is the leading cause of hospitalizations in Orange County with 1,206 hospitalizations resulting from cardiovascular disease, heart disease, and cerebrovascular disease reported in 2005.¹⁵¹

Disparities

Compared to whites, minority death rates due to heart disease and cerebrovascular disease are higher. While this is related to socio-economic status,¹⁵² studies have also demonstrated a link between cardiovascular diseases and discrimination. Patients presenting with the same history and symptoms have received less thorough care based on providers' perceptions of gender¹⁵³ and race. Table 5-1, B-1 demonstrates the disparities in death rates.

	Death Rates				
	White males	White females	Minority males	Minority females	Overall
Heart Disease	209.1	121.4	231.9	177.6	165.3
Cerebrovascular Disease	53.0	59.8	86.1	65.3	60.5
Cholesterol Check in Last 5 Years	95.8%		79.2%		

Table 5-1, B-1: 2001-2005 Race-Sex-Specific Age-adjusted Death Rates per 100,000 for Heart and Cardiovascular Disease, Orange County, NC¹⁵⁴
BRFSS 2005 – Orange County. Cholesterol Awareness¹⁵⁵

¹⁴⁹ Lett HS, Blumenthal JA, Babyak MA, Strauman TJ, Robins C, Sherwood A. Social support and coronary heart disease: epidemiologic evidence and implications for treatment. *Psychosom Med.* 2005 Nov-Dec;67(6):869-78.

¹⁵⁰ NC DHHS State Center for Health Statistics, 2001-2005 Race-Sex-Specific age-adjusted death rates per 100,000 population for Orange County

¹⁵¹ Inpatient hospitalization and charges by principal diagnosis and county of residence, North Carolina, 2005. State Center for Health Statistics. Accessed at: www.schs.state.nc.us/SCHS/

¹⁵² James SA, Van Hoewyk J, Belli RF, Strogatz DS, Williams DR, Raghunathan TE. Life-course socioeconomic position and hypertension in African American men: the Pitt County Study. *Am J Public Health.* 2006 May;96(5):812-7.

¹⁵³ Arber S, McKinlay J, Adams A, Marceau L, Link C, O'Donnell A. Patient characteristics and inequalities in doctors' diagnostic and management strategies relating to CHD: a video-simulation experiment. *Soc Sci Med.* 2006 Jan;62(1):103-15.

¹⁵⁴ NC DHHS State Center for Health Statistics, 2001-2005 Race-Sex-Specific age-adjusted death rates per 100,000 population for Orange County

¹⁵⁵ NC SCHA. BRFSS. 2005 Survey Results for Orange County. Cholesterol Awareness. Available from: <http://www.schs.state.nc.us/SCHS/brfss/2005/oran/cholchk.html>

Persons with disability in Orange County also have higher rates of heart disease (20.5%) and stroke (2.6%) compared to the general population, 4.5% and .8% respectively.

Community Survey Results¹⁵⁶

The 2007 Community Health Assessment survey data illustrate that the lifestyle behaviors of many Orange County residents may be affecting the rates of heart disease. Analysis of the survey results revealed that 27% of respondents felt that healthy food is too expensive for them to afford, while 36% cited the amount of shopping and preparation time required as a barrier. Another 25% said that it is difficult to find healthy choices when eating out. The same survey showed that 36% percent of residents do eat outside the home at least two to three times per week. Survey results also indicate that many residents see themselves as being quite physically active. Thirty percent of those surveyed said that they exercise at a moderate level five or more days per week, and another 31% reported exercising three days per week. To the survey question about what kept them from being more active, 50% of respondents said that a lack of time was the biggest obstacle. It is interesting to note that despite the high activity level that was reported by survey respondents, Orange County suffers from a high rate of obesity, with 62.6% of residents being overweight or obese.¹⁵⁷

According to the 2005 BRFSS survey, only 12.5% of Orange County residents said that they smoked, which is well below the state average of 22.6%.¹⁵⁸ However survey data indicates that the figure might be closer to 25%. One possible explanation for the discrepancy may be that the BRFSS survey question relates to smoking only, whereas the community survey question addressed all tobacco use, including smokeless tobacco.¹⁵⁹ See Chapter 5, Part 2: Lifestyles Issues that Impact Chronic Disease for additional information on tobacco use, nutrition and physical activity in Orange County.

Despite the fact that heart disease is the leading cause of hospitalization in Orange County, residents did not list it as one of their chief health concerns. See figure 5-1, B-4 below. This suggests that there is opportunity in the area of educating our residents on the link between increasing healthy behaviors and reducing their risk of developing heart disease.

¹⁵⁶ These data are from the Orange County Community Health Assessment survey conducted by the Orange County Health Department, April, 2007. See appendix for survey content.

¹⁵⁷ BRFSS Survey Results 2005 for Orange County, Overweight and Obesity

¹⁵⁸ BRFSS Survey Results 2005 for Orange County, Tobacco Use, Current Smoker

¹⁵⁹ These data are from the Orange County Community Health Assessment conducted by the Orange County Health Department, April, 2007. See appendix for survey content.

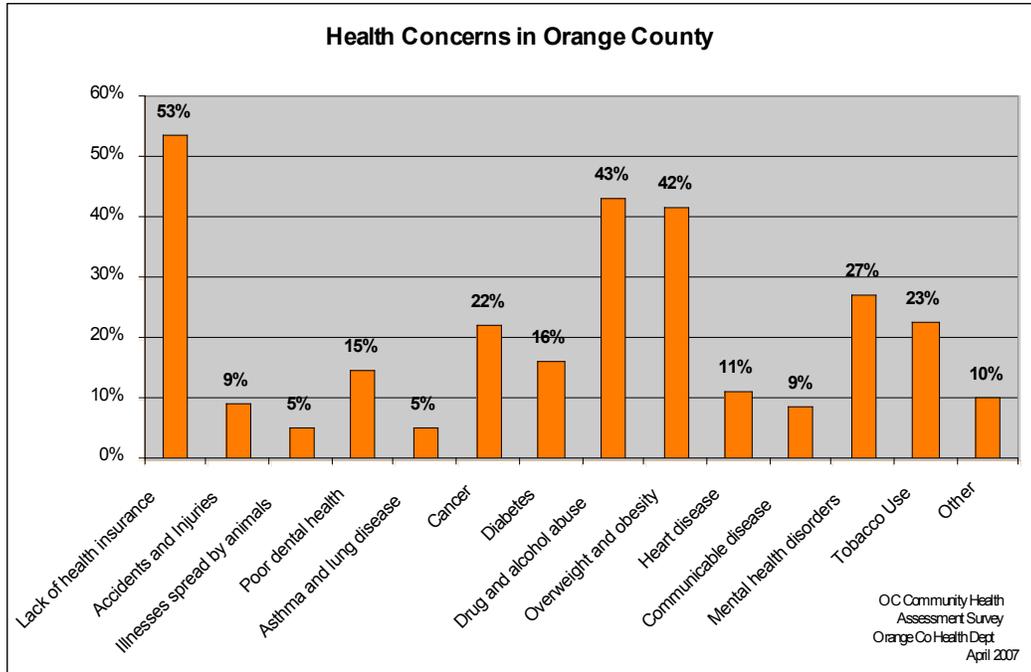


Figure 5-1, B-4: Responses to the survey question, “Which of these things stand out for you as important health issues in Orange County? Choose three.”

Resources

UNC Hospitals offer excellent care and rehabilitation programs for individuals suffering from heart disease and stroke, but prevention is the best resource. Cholesterol and blood pressure screening are an excellent first step to determining if someone may be at risk for heart disease and/or stroke. A regular annual physical with a primary care physician gives residents the best chance for detecting problems early.

As with cancer, prevention, screening, early detection and treatment are the top methods for reducing deaths due to heart disease and stroke. Smoking cessation is one of the best ways to reduce the risk of heart disease and stroke, followed closely by increasing physical activity and improving the diet. Specifically, this involves following the American Heart Association’s guidelines which include increasing daily fiber intake, increasing fruit and vegetable intake, and decreasing total fat intake, especially saturated fat.¹⁶⁰ Overweight individuals should take steps to lose weight sensibly by following the dietary recommendations of the American Heart Association and the American Dietetic Association and by adding 60 minutes of moderate exercise and/or increasing physical activity to most days of the week.¹⁶¹ Individuals should consult their physician prior to starting an exercise program. Individuals may also ask their doctors to refer them to a Registered Dietitian.

Positive steps toward preventing cardiovascular disease include increasing the number of smoke free facilities, providing walking opportunities through greater availability of suitable outdoor walking areas and mall walking programs, and by implementing substantive employee wellness programs at Orange County’s major employers.

¹⁶⁰ American Heart Association, Healthy Lifestyles: <http://www.americanheart.org/presenter.jhtml?identifier=851>

¹⁶¹ Ibid

Additional Resources:

Women's Health Resource Library
Cardiac Rehabilitation Program
Lineberger Cancer Center
1-800-QUIT-NOW
OCHD Chronic Disease, Senior Center Screening Program
Eat Smart, Move More – church collaboration
American Heart Association web site

Gaps and Unmet Needs

The data suggests that residents may be unaware of the link between heart disease and health behaviors such as smoking, diet and physical activity. Furthermore, residents may not feel confident in their ability to effectively prevent heart disease through health behaviors. While efforts to educate individuals about heart disease are generally done on a one-on-one basis through a physician or other health care provider, it is apparent that broad community education efforts are needed in order to teach individuals about the benefits of lifestyle change in the prevention and treatment of heart disease.

Emerging Issues

Many Americans are becoming increasingly overweight or obese as a result of calorie-laden diets and lack of physical activity. It is important to note that obesity and overweight rates continue to climb. As a result, the rates of heart disease and stroke may increase rather than decrease over time. The aging of North Carolina's population is also likely to increase the incidence of cardiovascular disease in NC and may further slow or reverse the decades-long downward trend in death rates. Much work needs to be done to educate particularly the younger members of the population about the importance of physical activity and good nutrition to reduce the risk of developing heart disease later in life. More education is also needed on secondary risk factors for cardiovascular disease.

C) Diabetes

The Healthy Carolinians 2010 Objective for diabetes are:

Reduce the diabetes death rate to 67.4 deaths per 100,000

The rate of death due to diabetes in Orange County from 2001-2005 was 17.8 per 100,000,¹⁶² already far below the 2010 goal of both Healthy Carolinians and Healthy People 2010.

Increase the proportion of adults with diabetes who have a glycosylated hemoglobin measurement (Hgb A1c) at least once a year to 41%

According to the 2005 Orange County BRFSS survey results, 97.4% of Orange County adults had their A1c hemoglobin checked within the past year.¹⁶³

Increase the proportion of older adults with diabetes who have an annual dilated eye exam to 73.6%

According to the 2005 Orange County BRFSS survey results, 75.6% of older Orange County adults had an eye exam with dilated pupils within the past year.¹⁶⁴

¹⁶² 2001-2005 Race-Sex-specific, Age-adjusted Death Rates for Orange County. From the NC State Center for Health Statistics

¹⁶³ BRFSS: Health Risks among North Carolina Adults: 2005, October 2006.

www.schs.state.nc.us/SCHS/brfss/2005/oran/topics.html#d

¹⁶⁴ Ibid

Increase the proportion of older adults with diabetes who have an annual foot examination to 84.9%

According to the 2005 Orange County BRFSS survey results, 94.5% of older Orange County adults had a health professional check their feet for sores or irritations within the past year.¹⁶⁵

Impact

Diabetes was the 5th leading cause of death in Orange County in 2005 (up from the 8th leading cause of death in 2003) and is a major contributor to deaths from cardiovascular disease. Diabetes is the leading cause of blindness, renal failure, and non-traumatic amputations. Healthy Carolinians states that at least 130,000 adults in North Carolina are believed to have diabetes and are not aware of it.¹⁶⁶ In addition, it is estimated that there are about 437,600 pre-diabetics in the state.

Nationally, the rate of Type 2 Diabetes has been rising dramatically, especially among children, as the problem of obesity has increased. This is resulting in an increasing cost to the community, not only in medical visits and pharmaceuticals, but also in lost school and workdays.

Contributing Factors

Many factors contribute to the onset of diabetes, including family history of the disease, improper nutrition (diet high in calories, fat, especially saturated fat, as well as high in processed foods), obesity, lack of physical activity, difficulties in managing the disease due to rural living conditions, limited access to health care and medications, lack of economic resources, and lack of education about the disease.¹⁶⁷

Data

In Orange County in 2005 there were 20 deaths attributed to diabetes with the vast majority in the 65+ age group.¹⁶⁸ An additional 135 people were hospitalized due to diabetes in the same year at a cost of \$1,579,382.¹⁶⁹ The available data does not really present a true picture of diabetes since so many people are undiagnosed or may not be receiving treatment. There is also no reliable source of data for the number of people who are living with diabetes. In addition, many other conditions such as heart disease and renal failure may be due to long-term diabetes. In North Carolina in 2005, an estimated 547,000 adults were diagnosed with diabetes - 8.5% of all males and 8.5% of all females.¹⁷⁰ The prevalence of diabetes increased significantly with age, to nearly 20% among 65+ year olds. Another 130,000 adults are believed to have diabetes and are not aware of it. Each day, diabetes causes about 15 deaths, eight leg amputations, and more than 600 hospitalizations for treatment or surgery for heart or stroke complications or poor circulation in the feet or legs.¹⁷¹

¹⁶⁵ Ibid

¹⁶⁶ Healthy Carolinians 2010, North Carolinas Plan for Health and Safety, Report of the Governor's Task Force for Healthy Carolinians, 2000. Pg 62

¹⁶⁷ Healthy Carolinians 2010, North Carolinas Plan for Health and Safety, Report of the Governor's Task Force for Healthy Carolinians, 2000. Pg 63

¹⁶⁸ 2005 Detailed Mortality Statistics for Orange County, State Center for Health Statistics

¹⁶⁹ Inpatient hospitalization and charges by principal diagnosis and county of residence, North Carolina, 2005.

State Center for Health Statistics. Accessed at: www.schs.state.nc.us/SCHS/

¹⁷⁰ BRFSS: Health Risks among North Carolina Adults: 2005, October 2006.

www.schs.state.nc.us/SCHS/pdf/BRFSSReport2005.pdf

¹⁷¹ Healthy Carolinians 2010, North Carolinas Plan for Health and Safety, Report of the Governor's Task Force for Healthy Carolinians, 2000. Pg 63

In Orange County according to 2005 BRFSS survey results, 30 respondents out of 421 stated that they had diabetes, for a 5.6% prevalence rate. In addition, 38% of non-diabetic adults reported they had never received a blood sugar test for diabetes (comparable to NC average of 38.5%), and 7.8% indicated they had their last blood test more than 5 years ago (compared to 6.6% for NC).¹⁷² In all categories, Orange County adults with diabetes were exceeding the Healthy Carolinian 2010 goals for appropriate clinical care.

Disparities

While the death rate from diabetes in Orange County is low, there is a significant difference between whites and minorities with the rate for minorities (42.7/100,000) almost four times higher than that for whites (12.7/100,000).¹⁷³ American Indians are also at very high risk for diabetes and diabetes is more common in people over the age of 60. Also, county residents with disability who have been diagnosed with diabetes is 11.2% as opposed to 5.6% in the general population.¹⁷⁴ Diabetes, and especially its serious complications, disproportionately affects rural and economically disadvantaged people.

Community Survey Results¹⁷⁵

As noted above, improper nutrition, obesity and lack of physical activity are three of the primary factors contributing to diabetes, and in particular to the increase in the number of new cases, especially among children. The results of the 2007 Community Health Assessment survey reflect a growing awareness among residents about the effects of unhealthy lifestyles and behaviors. When provided with a list of health concerns and asked to pick their top three, 42% selected overweight and obesity, and another 16% indicated diabetes specifically. Lack of affordable health care, another contributing factor, was selected as one of the top three health concerns by 53% of those polled. See figure 5-1, C-1 below.

¹⁷² BRFSS: Health Risks among North Carolina Adults: 2005, October 2006.

www.schs.state.nc.us/SCHS/brfss/2005/oran/topics.html#d

¹⁷³ 2001-05 Race-Specific and Sex-Specific Age-adjusted Death rates per 100,000 population for Orange County, NC. State Center for Health Statistics.

¹⁷⁴ BRFSS: Health Risks among North Carolina Adults: 2005, October 2006.

www.schs.state.nc.us/SCHS/brfss/2005/oran/topics.html#d

¹⁷⁵ These data are from the Orange County Community Health Assessment survey conducted by the Orange County Health Department, April, 2007. See appendix for survey content.

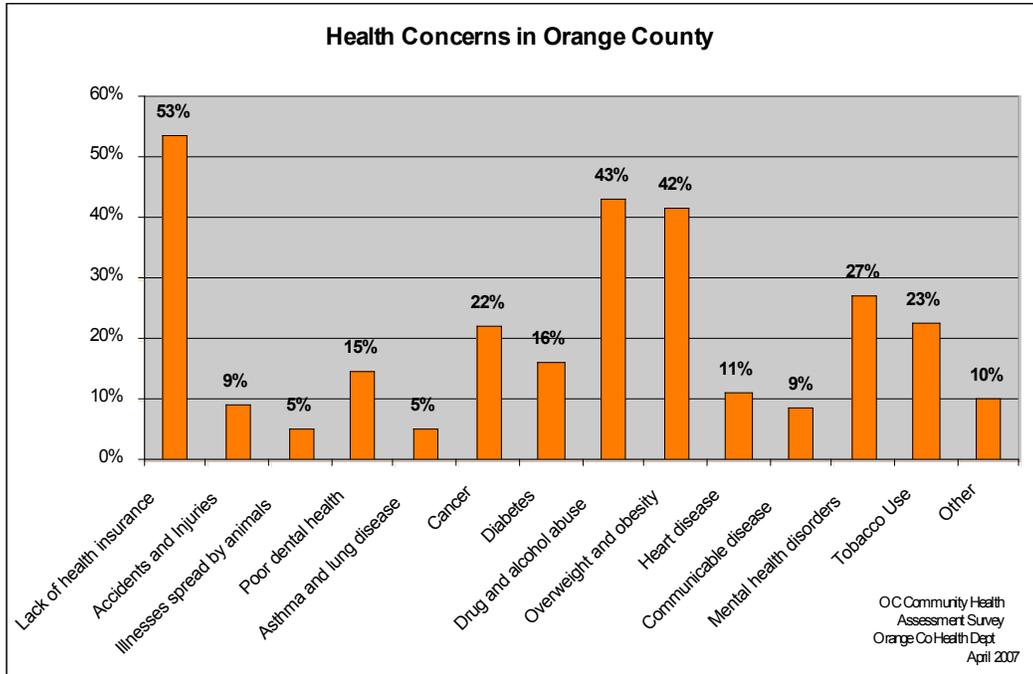


Figure 5-1, C-1: Responses to the survey question, “Which of these things stand out for you as important health issues in Orange County? Choose three.”

However, awareness does not necessarily translate into changes in health behaviors. The survey data illustrate that the dietary habits of many Orange County residents may be affecting the rates of diabetes. Analysis of the survey results revealed that 27% of respondents felt that healthy food is too expensive for them to afford, while 36% cited the amount of shopping and preparation time required as a barrier. Another 25% said that it is difficult to find healthy choices when eating out. The same survey showed that 36% percent of residents do eat outside the home at least two to three times per week.

In regards to exercise, survey results indicate that many residents see themselves as being quite physically active. Thirty percent of those surveyed said that they exercise at a moderate level five or more days per week, and another 31% gave three days per week as the frequency. It is interesting to note that despite the activity levels reported by survey respondents, Orange County suffers from a high rate of obesity, with 62.6% of residents being overweight or obese.¹⁷⁶

There is a connection between these factors: physical activity, nutrition, overweight, and the increasing rates of diabetes. Suggestions for creating change in the rates of diabetes must focus on creating change in healthy behaviors. See Chapter 5: Part 1D, and Part 2 B and C for additional information, on obesity, nutrition, and physical activity.

Resources

Several initiatives are underway to try and reduce diabetes and the complications that can result from it. The Health Department and UNC Hospitals offer programs in diabetes management and nutritional counseling. The Student Health Action Coalition has organized diabetes foot clinics in the northern portion of the county and the Department on Aging also

¹⁷⁶ BRFSS Survey Results 2005 for Orange County, Overweight and Obesity

partners with the Health Department to provide diabetes self management classes and foot assessment clinics at the Senior Centers. The Medication Management Program for Older Adults at the UNC School of Pharmacy is also trying to reach seniors by having clinical pharmacists make home visits to older adults to provide education and counseling on important diabetes principles. One local optometrist is spearheading a program to provide preventive eye screening to high-risk groups. Nutritional changes in school cafeteria offerings and vending machines across the County are providing healthier choices for students. The Health Department has also trained outreach educators known as Diabetes Ambassadors to work within the community and has convened a Diabetes Coalition of interested community members to share relevant initiatives, resources and research impacting Diabetes in the community. Information on Diabetes Resources in Orange County can be found at www.co.orange.nc.us/health/documents/DiabetesResourcePages.pdf.

Gaps and Unmet Needs

More education is needed to help the community understand how to prevent diabetes and how to best manage diabetes once diagnosed. Particularly in the northern portion of the county where many low-income elderly people reside, more outreach could be done to educate and help them combat the complications of diabetes. More also needs to be done to reduce the rapidly increasing rates of obesity, especially in children. Measuring body mass index of children in schools can provide a baseline for targeting resources where they may be most effective. The recently formed Diabetes Coalition identified a need for more Registered Dietitians, diabetes lay health advisors, and diabetes classes/programs in the community. It was noted that many of these outreach educational efforts need to be provided in Spanish due to the growing Latino population in Orange County in which there is a relatively high incidence of disease. There is also a recognized benefit from encouraging industries/companies to offer health and wellness programs to promote healthy behaviors that prevent obesity and chronic disease. Finally, better access to primary care for low-income residents is needed in order for them to receive the proper screening necessary to determine if they have diabetes and how to access the needed treatment, particularly medications and blood glucose testing supplies to prevent complications.

Emerging Issues

The number of children and adults who are overweight or obese is rapidly increasing and as a result, the number of people who have diabetes, especially children, is increasing at an alarming rate. With the increase in the problem of overweight and obesity in the US, healthcare providers and prevention educators need to be vigilant in educating the population about the importance of having their blood glucose checked when meeting certain diabetes risk factors, such as being overweight. Increasing the opportunities for safe play and exercise for both children and adults and improving the nutritional content of restaurant/fast food choices will help to ward off the potential for early onset of diabetes.

D) Obesity

The Healthy Carolinians 2010 Objectives for obesity are:

Reduce the percent of children and adolescents seen in health department clinics and WIC programs who are at-risk for overweight or overweight to 10%

Age	NC 2002	NC 2006	Orange County 2002	Orange County 2006
2-4	27.7%	30.9%	35.8%	35.8%
5-11	37.9%	42%	42.4%	41.1%
12-18	43.3%	46.8%	46.9%	38.5%
Overall Average	36.3%	39.9%	41.7%	38.5%

Table 5-1, D-1: Comparison of NC and OC Children Seen in Health Department and WIC Clinics who were at Risk for Overweight ($\geq 85^{\text{th}}$ to $< 95^{\text{th}}$ percentile) and Overweight ($\geq 95^{\text{th}}$ percentile).¹⁷⁷

Reduce the proportion of adults who are obese to no more than 16.8% of the population

Based on results of the 2005 BRFSS for Orange County, 19.4% of adults were obese.¹⁷⁸

Impact

The rates of overweight and obesity among Americans continue to increase with over 65% of the adult population being overweight or obese.¹⁷⁹ Compared to other states, North Carolina has experienced one of the fastest growing rates of obesity over the past 10 years with an alarming increase in overweight and obesity in all age groups. Currently, more than 60% of NC adults are overweight or obese.¹⁸⁰ Children and adolescents are equally affected by the problem of overweight; with the rates of childhood overweight more than doubled in the last 20 years.¹⁸¹ Being overweight or obese during any stage of life increases your risk for numerous health conditions including type II diabetes, heart disease, stroke, risk for gall bladder disease, sleep apnea, respiratory problems, some types of cancer, and osteoarthritis.¹⁸² In Orange County, cancer, heart disease, and stroke are the leading causes of death; clearly overweight and obesity contribute to the burden of these diseases. Of special concern are the long-term impacts of childhood overweight. Studies have shown that overweight children are 70% more likely to become overweight adults and suffer from chronic disease and other health related consequences at an earlier age.¹⁸³ If this trend continues, NC as a whole will have a sicker and less productive population.

Obesity is not only a significant health problem, the cost of overweight and obesity in NC is considerable. According to a recent report by Be Active North Carolina, the estimated cost of overweight and obesity in NC is over \$9.7 billion a year including both direct and indirect costs. When combined with physical inactivity, type II diabetes, and low fruit/vegetable intake among adults, the estimated cost is \$24.1 billion. It is projected that the total cost will rise to more than \$36 billion by 2008 unless aggressive action is taken.¹⁸⁴ “If just 5% of adults who

¹⁷⁷ NCNPASS data accessed on August 21, 2007 at:

<http://www.eatsmartmovemorenc.com/data/ docs/ 2005/NCNPASSChartsGraphs 2005.pdf>

¹⁷⁸ NC SCHS. BRFSS 2005 Survey Results for Orange County. Risk Factors Body Mass Index Grouping- Underweight, Recommended Range, Overweight and Obese. Accessed on August 21, 2007 at : www.schs.state.nc.us/SCHS/healthstats/brfss/2005/oran/rf1.html

¹⁷⁹ Ibid

¹⁸⁰ Ibid

¹⁸¹ Orange County Commission for Women, Status of Women Report On Obesity, 2006

¹⁸² Healthy Carolinians 2010, North Carolinas Plan for Health and Safety, Report of the Governor’s Task Force for Healthy Carolinians, 2000. Pg 68

¹⁸³ Orange County Commission for Women, Status of Women Report On Obesity, 2006

¹⁸⁴ Be Active North Carolina, Inc. The Economic Cost of Unhealthy Lifestyles in North Carolina, December, 2005.

are overweight or diabetic become more active and or engaged in healthier lifestyles, the state could save more than a billion dollars.”¹⁸⁵

Contributing Factors

There are several contributing factors to obesity. The American Obesity Association and Centers for Disease Control identified a number of leading factors contributing to obesity. They include a lack of physical activity, sedentary behavior, unhealthy eating patterns, socioeconomic status, the environment, and genetics.¹⁸⁶

While obesity is caused by a complex interaction between a person’s behavior and their environment, weight gain is largely caused by an imbalance between the amount of energy consumed through food and drinks and the amount of energy expended through exercise and resting energy expenditure. An unhealthy lifestyle with a diet high in fat and low in whole grains, fruits, and vegetables, combined with low levels of physical activity will lead to weight gain. Conversely, regular physical activity and a low-fat diet, rich in whole grains, fruits and vegetables are key components to maintaining a healthy weight and good health.

While residents may be aware of the need to be healthy, they face many barriers to eating healthy including lack of knowledge about how to prepare nutritious meals, lack of time, cost, an abundance of fast food and foods high in fats, sugars, and salt. Additionally, residents faces many barriers to being more physically active including lack of time, more time spent in sedentary activities (e.g., watching TV, working on the computer, and video games), reduced opportunity for physical activity during the school day, and residing in communities that do not support activities such as walking, biking or playing outside. For some, although certainly not all, advancing age also impacts ones ability to be more active.

Data

In Orange County as in North Carolina as a whole, there has been an increase in overweight and obesity in all age groups. The BRFSS shows that among adults, obesity has increased 2.7%, from 16.7% in 2002 to 19.4% in 2005. Obesity is classified as having a Body Mass Index (BMI) greater than 29.9. Another 32.2% of adults are classified as overweight or having a BMI greater than 24.9. In total, in 2005, over 51% of Orange County adults did not meet the recommended range for weight.¹⁸⁷

While data on childhood obesity is hard to find, data from the Health Department and WIC programs, shown in Table 5D-1 above, indicate that more children in Orange County are becoming overweight. Figures from the WIC clinics show an increase in the number of children of all ages who are at-risk for overweight and overweight statewide, from 36.3% in 2002 to 39.9% in 2006. However, in Orange County, the rate of at-risk for overweight and overweight have remained steady for children ages 2 to 11 years and have decreased among children ages 12 to 18 years from 41.7% in 2002 to 38.5% in 2006.¹⁸⁸

Another data source, the 2007 Physical Fitness Assessment that was conducted in the Chapel Hill-Carrboro City Schools with all K thru 9th grade students, showed that 7.7% of the

¹⁸⁵ Ibid

¹⁸⁶ Orange County Commission for Women, Status of Women Report On Obesity, 2006

¹⁸⁷ NC SCHS. BRFSS 2005 Survey Results for Orange County. Risk Factors Body Mass Index Grouping- Underweight, Recommended Range, Overweight and Obese. Accessed on August 21, 2007 at : www.schs.state.nc.us/SCHS/healthstats/brfss/2005/oran/rf1.html

¹⁸⁸ NCPASS data accessed on August 21, 2007 at: http://www.eatsmartmovemorenc.com/data/docs/2005/NCNPASSChartsGraphs_2005.pdf

children were either at risk for overweight or overweight.¹⁸⁹ Among high school students surveyed in the 2007 YRBS in the Chapel Hill-Carrboro City Schools, 23.1% of high school students believed themselves to be slightly overweight and 1.6% of students believed themselves to be very overweight. 43.7% of students reported that they were trying to lose weight.¹⁹⁰ According to the Communities That Care survey among Orange County students, only 3% of 6th, 8th, and 10th grade students perceive themselves to be overweight.

The general picture drawn from this data is that Orange County is not meeting the Healthy Carolinians objective for the percent of children or adults who are overweight or obese. In Orange County, over 50% of adults did not meet the recommended guidelines for weight and this number continues to rise. Among children seen in WIC or health clinics, 35% of them are at-risk for overweight or overweight. This figure has remained steady or slightly decreased from 2002.

Disparities

Weight	Recommended		Overweight		Obese	
	#	%	#	%	#	%
Gender - Male	54	35.1	72	41.8	31	21.2
Gender - Female	141	59.1	56	22.3	49	17.6
Race - White	173	52.0	106	30.8	25	15.8
Race - Other	22	29.6	19	35.9	21	33.0
Age 18-44	89	51.4	46	30.8	25	16.1
Age 45+	105	41.4	81	34.1	54	23.4
High school or less	32	32.7	35	41.5	18	22.0
Some college	163	52.5	93	28.8	61	18.2

Table 5-1, D-2: Results of the BRFSS 2005 for Orange County Body Mass Index Grouping -Underweight, Recommended Range, Overweight and Obese¹⁹¹

It is interesting to note from Table 5-1, D-2 above, that in 2005 in Orange County, men are more likely to be overweight and obese than females. This is a slight change from 2002, where more females were obese than males. Overweight and obesity are observed in all population groups, but obesity is particularly common among Hispanics/Latinos, African-Americans and American Indians, especially females of these groups. As in past years, the prevalence of overweight and obesity increases with advancing age for both males and females. Additionally, those with less education are more likely to be overweight and obese than those with higher education.¹⁹²

¹⁸⁹ Personal Communication with Stephanie Willis, Wellness Coordinator for Chapel Hill-Carrboro City Schools, on July 20, 2007.

¹⁹⁰ 2007 Youth Risk Behavior Survey, Chapel Hill-Carrboro City Schools

¹⁹¹ Ibid

¹⁹² NC SCHS. BRFSS 2005 Survey Results for Orange County. Risk Factors Body Mass Index Grouping- Underweight, Recommended Range, Overweight and Obese. Accessed on August 21, 2007 at : www.schs.state.nc.us/SCHS/healthstats/brfss/2005/oran/rf1.html

Community Survey Results¹⁹³

There were a number of questions on the 2007 Community Survey that are relevant to the topic of obesity, including questions about diet, exercise, and health concerns in general. Survey participants were given a list of health concerns and asked to select the three which were of greatest importance in Orange County. Overweight and obesity was listed as one of the top three by 42% of respondents. This issue was the third most frequently selected, only missing second place by one percentage point. An additional 49% of those surveyed indicated heart disease, diabetes or cancer – all of which are linked to obesity – as one of their top three. (See graph below.)

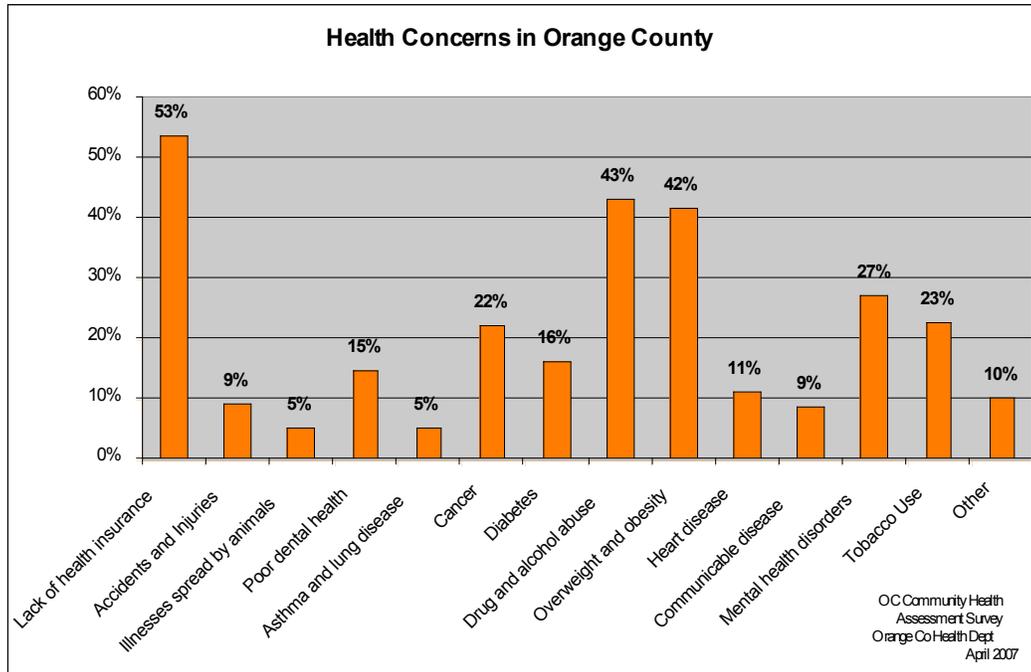


Figure 5-1, D-1: Responses to the survey question, “Which of these things stand out for you as important health issues in Orange County? Choose three.”

So, while residents are aware of the seriousness of obesity as a threat to health, clearly the necessary changes in behaviors have yet to catch up with the awareness of the need.

Survey participants were also queried about their dietary habits. One of the questions had to do with the barriers to eating a healthy diet. Time and cost were the reasons given most frequently. Interestingly, almost half of those surveyed indicated that it was not difficult for them to eat healthy. The abovementioned increases in rates of overweight and obesity would seem to be in conflict with this assertion.

Approximately 36% of those surveyed said time to shop and prepare was their greatest challenge, while 27% blamed the cost of eating healthy. Another 25% indicated that there are few healthy choices when eating out. The same survey showed that 36% of residents do eat outside the home at least two to three times per week further indication that striving for better

¹⁹³ These data are from the Orange County Community Health Assessment survey conducted by the Orange County Health Department, April, 2007. See appendix for survey content.

labeling and more healthful choices in restaurants is a valuable undertaking. See graphs below for applicable survey responses.

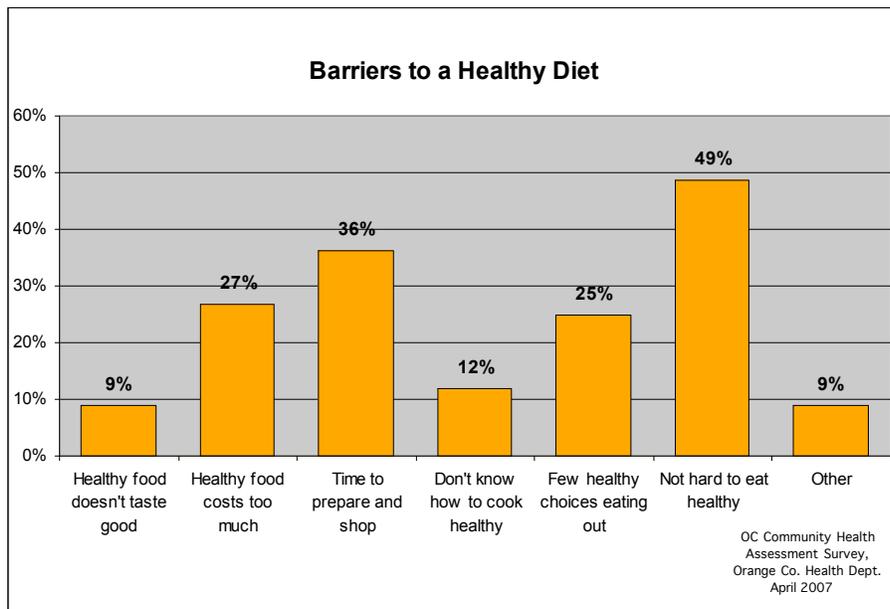


Figure 5-1, D-2: Responses to the survey question, “What do you think makes it hard for you to eat healthy? Tell me all that apply?”

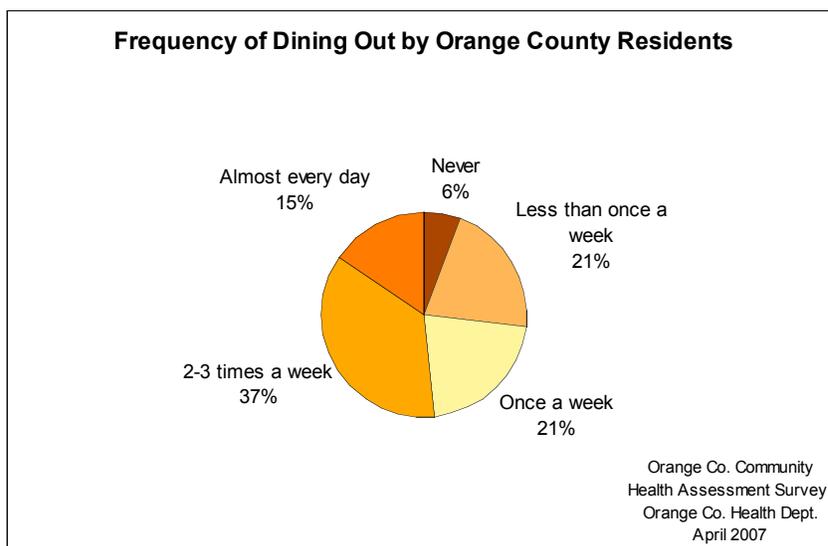


Figure 5-1, D-3: Responses to the survey question, “How many times a week do you eat meals that were not prepared at home, like from restaurants, cafeterias or fast food?”

It is apparent that those who feel they cannot sustain a healthy diet due to cost would benefit from nutrition counseling programs designed to educate residents on how to eat healthy on a budget. In past interviews with residents, many have expressed frustration and said they felt powerless to change their diets. It must be recognized that it is difficult for people who have always cooked a certain way to completely change their approach to food preparation. As one resident told us in a previous interview, *“If somebody could just teach us how to eat better, I think that would contribute directly to us having a healthier lifestyle.”* They have also lamented the fact that it is almost impossible to get healthy options at restaurants, particularly

fast food places. The “Winner’s Circle Healthy Dining,” described in the section below, is aimed at addressing this complaint.

The survey also included a question about types of beverages consumed on a daily basis, and results indicate that while 22% of respondents drink three or more sweetened drinks per day, 56% drink none. Many residents already feel that they are healthy and have good nutritional habits. Only 2% of those surveyed felt that their overall diet was poor. On the other hand, a combined 53% believe that their overall diet is very good or excellent (see graph below). Again, this is somewhat contradictory to the data cited above. We know that overweight and obesity are on the rise in Orange County, as they are across the state and around the country. We know also that diabetes is a serious problem. It is possible that there is a gap between perception and reality when it comes to eating healthy. Alternatively, it may be a lack of a clear understanding of what it means to eat a balanced, nutritious diet. Because of the link between nutrition and obesity and other chronic diseases, it is crucial that more resources be dedicated to promoting healthy lifestyle choices through education and intervention efforts.

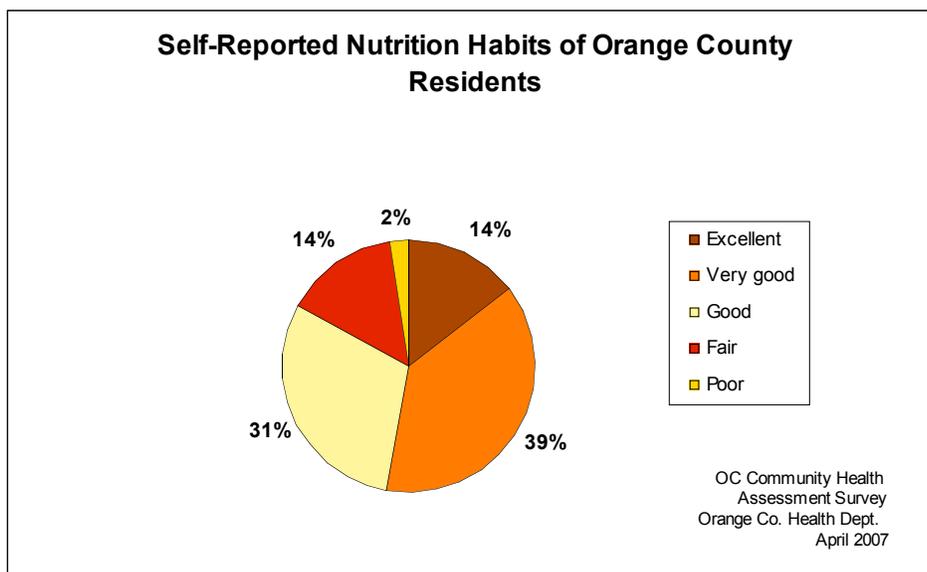


Figure 5-1, D-4: Responses to the survey question, “In general, how healthy would you say your overall diet is?”

Physical activity, or rather the lack of it, is another contributing factor to obesity, as mentioned above. As part of the survey, residents were asked about their exercise habits and about the obstacles that prevented them from being more physically active. Predictably, time was the most frequently cited obstacle to getting more exercise; 50% of respondents listed it as the primary reason. Alarming, a full 16% stated that they did not have any desire to be more physically active. (See graph below.) It is of course possible that some of these respondents are already quite physically active. On the other hand, it may be that they are not aware of the serious health consequences of being inactive. The fact that educational attainment is a determinant of obesity points to the need for targeted interventions involving a practical approach to teaching residents how to prepare healthier meals and educating them as to their options for increasing their physical activity level.

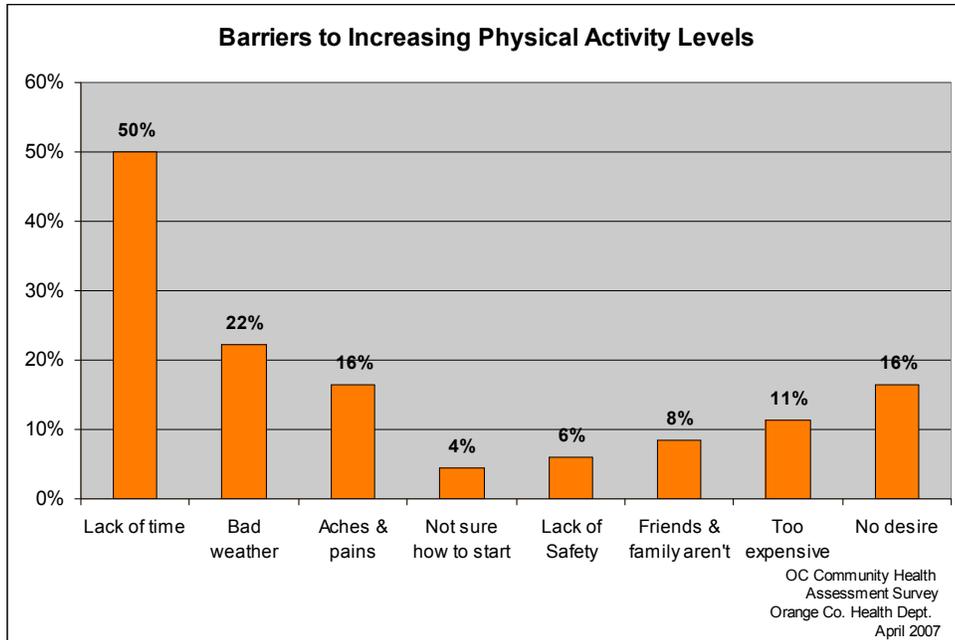


Figure 5-1, D-5: Responses to the survey question, “What keeps you from being more physically active? Tell me all that apply.”

Resources

Several initiatives have been started at the state level based on the knowledge that overweight is a critical problem in every county of the state, including Orange County. The State Division of Public Health, Health Promotion and Disease Prevention Section, Physical Activity and Nutrition Unit created a program called Eat Smart Move More NC (ESMMNC). ESMMNC has developed several plans to help guide NC residents, professionals, and communities in changing their health behaviors. The most recent report, *Eat Smart, Move More...NC's Plan*, is a five-year plan (2007-2012) offering overarching goals and measurable objectives for anyone working in the area of overweight and obesity prevention. The plan is designed to help organizations and individuals address overweight and obesity in their community and begin to create policies and environments supportive of healthy eating and physical activity. The Plan is founded on reports written earlier including the *North Carolina Blueprint for Changing Policies and Environments in Support of Increased Physical Activity* and the *North Carolina Blueprint for Changing Policies and Environments in Support of Healthy Eating*, as well as the *Moving our Children Toward a Healthy Weight* report released by the Women’s and Children’s Health Section of the State Division of Public Health.

Be Active NC, Inc., a local non-profit organization, has developed statewide programs such as Active Steps and Be Active Kids to encourage North Carolinians to be more active and to increase public awareness of the positive effects of increased physical activity. They also partner with local and grassroots efforts to advocate for and create model policies and environments to reduce barriers and create more opportunities for physical activity. In 2005 they released a report, “The Economic Costs of Unhealthy Lifestyles in North Carolina,” to highlight the economic implications of obesity in NC and to guide local and state efforts to reduce the economic burdens of unhealthy lifestyles. It is these types of statewide initiatives that will be required if we are to begin to see improvements on a large scale related to the problems of overweight.

In Orange County, many programs have been started through the Health Department and Healthy Carolinians. The "Winners Circle Healthy Dining" program was begun in 2002. The program aims to increase access to, recognition of, and demand for, healthy foods in those places where individuals are most likely to eat away from home: restaurants, work and school cafeterias, vending machines, convenience stores, and many other types of venues. Several fast food chains including Subway and McDonalds have also adopted the Winner's Circle Program statewide. The Healthy Carolinians partnership also created a Countywide Recreation Map that serves as a guide to all the recreation opportunities in the county. In addition to the Healthy Carolinians projects, the Orange County Health Department Health Promotion Coordinator and Nutritionist offer two weight management programs, one through the Orange County Schools and another for Orange County employees.

Another excellent local initiative, *Orange on the Move*, which is spearheaded by the Orange County Cooperative Extension, was started in 2002 by to combat the problem of overweight in youth. The group includes numerous representatives from schools, agencies, and organizations including the Health Department and Healthy Carolinians. The Coalition provides countywide events in April at the YMCA and the Triangle Sportsplex. They also have taken on several other projects during the last few years including making the afterschool snack menu in Orange County schools healthier and providing nutrition education to students to increase awareness of healthy eating habits. They also provided a comprehensive healthy weight program for youth and their families and recently coordinated a family challenge where selected families would work with a nutritionist and a physical activity professional for ten weeks to make changes in their eating and physical activity habits.

The Orange County Partnership for Young Children's, initiated the Healthy Kids Campaign which is designed to collaboratively and comprehensively address the issue of childhood obesity. The campaign goal is to establish five innovative and research-based programs designed to increase healthy eating and physical activity in young children and families in Orange County. These programs will take place in a variety of settings including child care and preschool programs, doctor's offices, places of worship, parks and recreation programs, farmer's markets and community gardens.

Chapel Hill-Carrboro City Schools and Orange County Schools have both established new Wellness Policies to set goals for increased physical activity in schools and guidelines for foods sold at schools. Both school systems have made changes to the school environments and begun programs to make the school more supportive of healthy behaviors. See Chapter 5, Part 2: Physical Activity and Nutrition for more information on what programs are being offered in the schools.

Finally, key staff at both the Chapel Hill-Carrboro and Orange County recreation departments cited overweight as a significant concern that they attempt to address through programming. One staff member we interviewed put it this way: *"We'll try any program that will just get people to move."*

Gaps and Unmet Needs/Emerging Issues

With the incidence obesity on the rise in the community, there need to be a number of programs on multiple levels to combat the problem among all ages. The greatest challenge, as noted elsewhere in this chapter, will be changing the combined lifestyle behaviors of poor nutrition and physical inactivity in the community for the better. Programs must be offered that are culturally sensitive and will appeal to minority community members as well as be

affordable and easily accessible to all residents. In schools, policies and environmental changes must continue to take place in order to provide better health education to students, create healthier school lunch programs, provide healthier a la carte options, and to incorporate more physical activity into the school day. In communities, there must be changes on an environmental level to increase opportunities for physical activity such as improved walking and biking trails, which is being undertaken as noted above, and more mass transit and services located within walking distance of communities. It is also important to increase access to healthy food that is affordable. See Chapter 5: Part 2: Physical Activity and Nutrition for more information on these topics.

E) Asthma

Healthy Carolinians 2010 objective for asthma:

Reduce the rate of asthma related hospitalizations to 118 per 100,000

In 2005 there were 61 hospitalizations in Orange County for a primary diagnosis of asthma for a rate of 50 per 100,000.¹⁹⁴

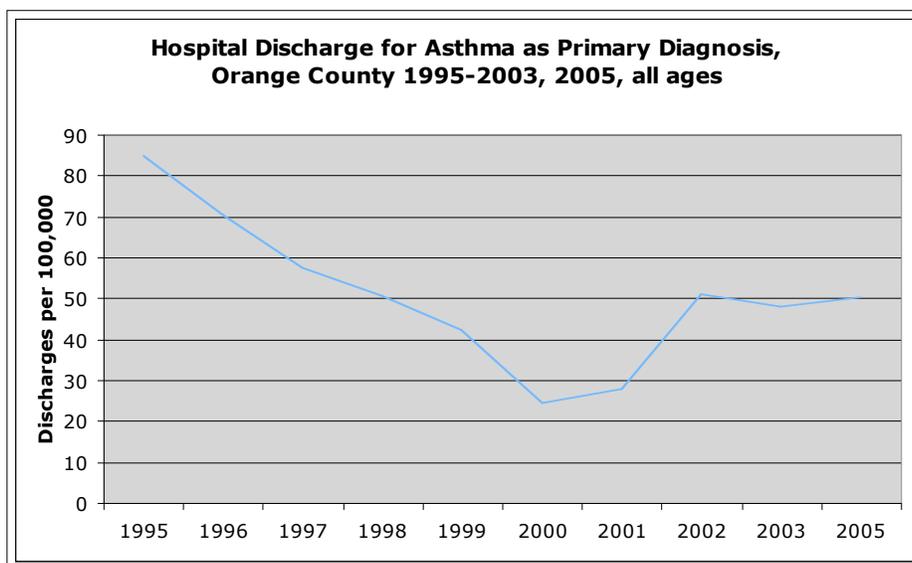


Figure 5-1, E-1: Hospital Discharge for Asthma in Orange County¹⁹⁵

Impact

The prevalence of asthma in children has increased over the past 20 years and is associated with hospitalization, restricted activity and sometimes death. Asthma is also the leading cause of school absence among children with chronic illnesses. In 1999, 50% of North Carolina children with asthma missed school because of the disease.¹⁹⁶ While asthma is prevalent in the community, many children suffering from asthma remain undiagnosed and untreated.

¹⁹⁴ 2005 North Carolina Hospital Discharges with a Primary Diagnosis of Asthma, NC State Center for Health Statistics.

¹⁹⁵ 1995-2003, 2005 North Carolina Hospital Discharges with a Primary Diagnosis of Asthma, NC State Center for Health Statistics.

¹⁹⁶ Healthy Carolinians 2010, North Carolinas Plan for Health and Safety, Report of the Governor's Task Force for Healthy Carolinians, 2000. Pg 56

Contributing Factors

Respiratory infections, as well as exposure to allergens and pollutants can result in asthma. In addition, lack of access to adequate primary care, inadequate financial resources, exposure to secondhand smoke, and inadequate social support can exacerbate the problem. Poor housing conditions with mold and dust may also contribute to the problem. In addition, asthma attacks can be triggered by climate changes, or by physical and emotional changes, such as coughing, laughing, exercise or stress.

Data

Approximately 8% of Orange County residents suffer from asthma, as compared to the 10% statewide.¹⁹⁷ Furthermore, in Orange County, the rate of hospitalization for adults hospitalized due to asthma is 50 per 100,000, which is below the Healthy Carolinians objectives of 118 per 100,000¹⁹⁸ but an increase from 2001 (27.3 per 100,000).

According to the End-of-Year Nurse's Reports, in the Chapel Hill-Carrboro City Schools, 883 students (404 elementary, 245 middle, and 234 high school) have been diagnosed with asthma. In Orange County Schools, 603 students (329 elementary, 149 middle, and 125 high school) have been diagnosed with asthma. In 2005, there were 14 hospital discharges with a primary diagnosis of asthma among children through age 14 for a rate of 69.5 per 100,000 in Orange County.¹⁹⁹ This can be compared to the rates for North Carolina of 17.8% of children through age 17 being diagnosed with asthma.²⁰⁰ While rates of asthma in Orange County are relatively low, there is concern that rates may go up due to increasing air pollution. In addition, there may be children and adults who suffer from asthma but are undiagnosed.

Disparities

African-American and Hispanic children more frequently use emergency departments for medical care of their asthma, are more likely to be hospitalized, and are more likely to die from asthma than white children. Children in general are more likely to have a diagnosis of asthma than adults, and women are more likely to have an asthma diagnosis than men.

¹⁹⁷ BRFSS Survey Results 2005 for Orange County, accessed on 8/14/07 at <http://www.schs.state.nc.us/SCHS/pdf/BRFSSReport2005.pdf>

¹⁹⁸ BRFSS Survey Results 2005 for Orange County, accessed on 8/14/07 at <http://www.schs.state.nc.us/SCHS/pdf/BRFSSReport2005.pdf>

¹⁹⁹ 2005 North Carolina Hospital Discharges with a Primary Diagnosis of Asthma, NC State Center for Health Statistics.

²⁰⁰ 2005 North Carolina Statewide CHAMP Survey Results: Asthma. NC State Center for Health Statistics. NC School Asthma Survey 1999-2000. Pg D-25

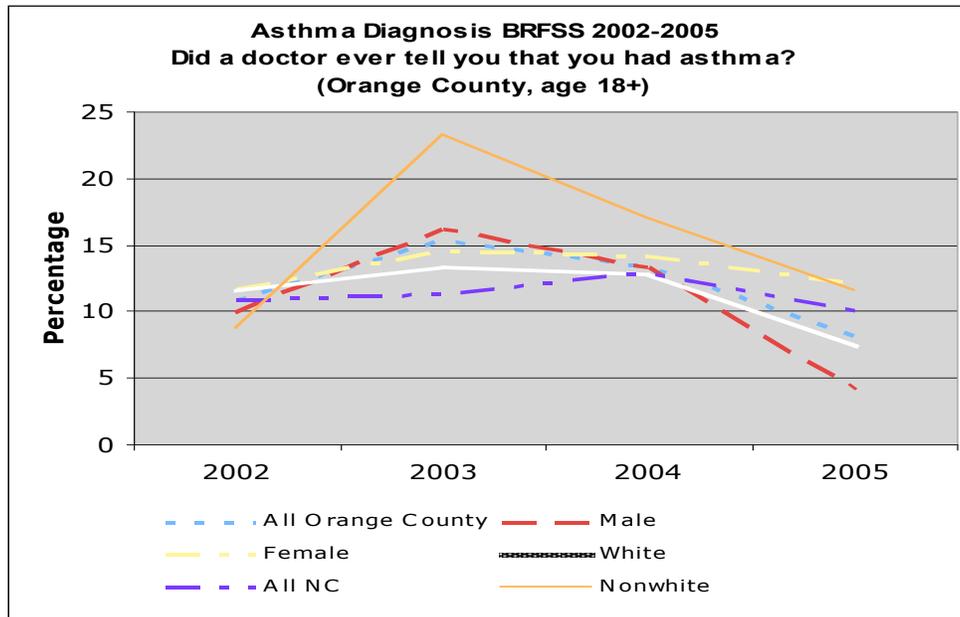


Figure 5-1, E-2: Asthma Diagnosis 2002-2005, Orange County, Age 18+

Research reveals a strong relationship between poverty and asthma.²⁰¹ Substandard housing contributes to the exacerbation of asthma due to window air conditioning units that harbor mold, carpeting that is not maintained or easily cleaned, dryers that are not properly ventilated, and roaches or other insect and vermin infestations. Additionally, people with lower incomes have higher rates of smoking, contributing to second-hand smoke exposure in children.

Community Survey Results²⁰²

Nowhere is the relationship between economic conditions and disease more apparent than in the case of asthma. As mentioned above, and for a number of reasons, poverty has been repeatedly tied to the onset and exacerbation of asthma. The Orange County Community Health Assessment results indicate that affordable health care is the number one social issue for residents, with 43% citing it as one of their top three social concerns. While only 5% of those surveyed specifically listed asthma as one of their primary health concerns, over 53% cited the lack of health insurance as one of the top three health issues in the community.

Residents are also aware of the dangers of exposure to second hand smoke. In fact, 89% of those surveyed said they believe second hand smoke is harmful to their health, while only 3% do not. Survey results showed that 63% of residents stated that they are exposed to second hand smoke in a number of places. See Figure 5-1, E-3 below for some of the locations listed.

²⁰¹ Healthy Carolinians 2010, North Carolinas Plan for Health and Safety, Report of the Governor's Task Force for Healthy Carolinians, 2000. Pg 56

²⁰² These data are from the Orange County Community Health Assessment survey conducted by the Orange County Health Department, April, 2007. See appendix for survey content.

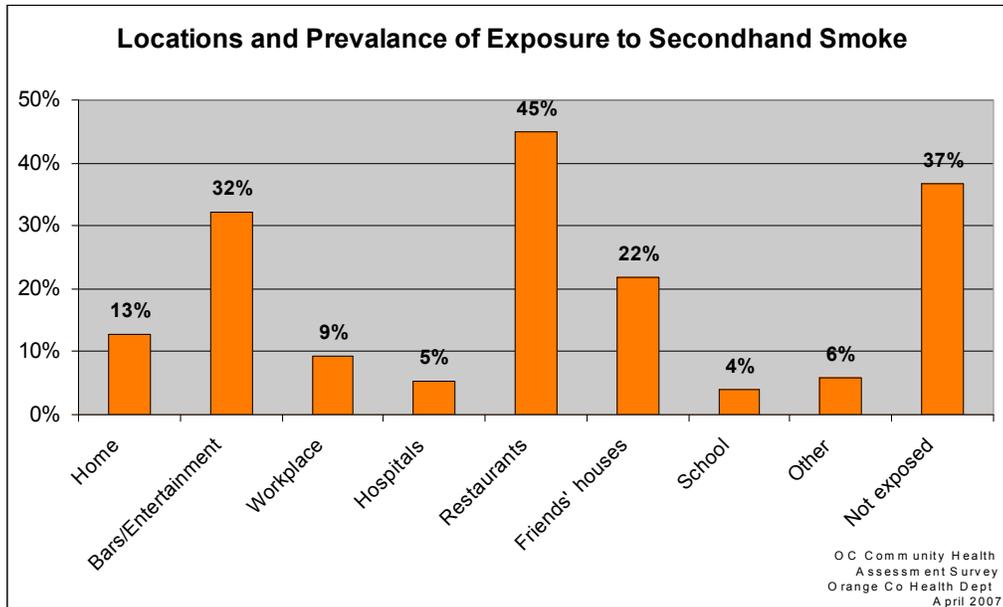


Figure 5-1, E-3: Responses to the survey question “Are you exposed to secondhand smoke at any of the following places? Please answer yes to all that apply.”

As noted elsewhere in this section, air quality plays an important role in the occurrence of asthma, and is of great concern to public health professionals. Here, too, residents in general mirror that concern in their responses to survey questions about environmental topics. Air pollution ranked third on the list of environmental concerns about which residents were polled, with 35% citing it as one of their top three. Development, a related issue, was one of the top three concerns for 57% of those surveyed.

Resources

1-800-QUIT-NOW

North Carolina Asthma Program, NC Division of Public Health, Chronic Disease & Injury Section

The American Lung Association of North Carolina

Allergy and Asthma Network, Mothers of Asthmatics

American Academy of Asthma, Allergy and Immunology

Centers for Disease Control and Prevention

Environmental Protection Agency

Gaps and Unmet Needs

Children are often absent from school due to uncontrolled asthma, and these attacks are frequently treated at a hospital emergency department. Orange County currently lacks a system that alerts the medical provider and school nurse of such an occurrence. Such gaps in communication not only lead to more emergency visits but also to missed opportunities for education and training for the family. The Asthma Coalition is exploring options to address this communication gap and advocating for systems change in Orange County.

Emerging Issues²⁰³

In the future, policies regarding construction, building materials, cleaning, heating/air conditioning, pest control and smoking should empower housing agents and residents to work towards healthier living environments. Careful attention should be paid to a possible increase in asthma prevalence in suburban non-farm youth.

According to a 2006 Surgeon General's report, "about 202,300 episodes of childhood asthma" occur each year in the United States as a result of exposure to secondhand smoke.²⁰⁴ While there is not enough evidence to be certain that secondhand smoke causes the onset of childhood asthma, it is clear that secondhand smoke makes asthma more severe in those children who already have the disease.

There is evidence that breastfeeding may help reduce the incidence of asthma.²⁰⁵ While the evidence is still emerging, the research is likely to evolve over the next few years.

The rise in air pollution is a major concern because of its effect on existing asthma cases as well as on the development of new cases of asthma. In conjunction with the broader efforts at the state and national levels, the County should continue to focus on reducing air pollution as one factor in reducing the incidence of asthma.

As concerns about air quality continue to increase, service providers may want to use data on asthma detection and intervention as a way to monitor possible relationships between air quality and the onset of asthma.

Part 2: Lifestyle Issues

A) Tobacco Use

Healthy Carolinians 2010 objectives for tobacco use in children and adolescents are:

Reduce tobacco use (including cigarettes, pipes, spit tobacco, and cigars) by middle school students, grades 6 through 8 to 8%

See below data on cigarette smoking.

Reduce tobacco use (including cigarettes, pipes, spit tobacco, and cigars) by high school students, grades 9 through 12 to 19.1%

See below data on cigarette smoking.

Reduce cigarette smoking by middle school students, grades 6 through 8 to 7.5%

According to the 2007 Chapel Hill-Carrboro City Schools YRBS, 3.6% of middle school student smoked cigarettes 1 to 9 days in the past 30 days, and 2.1% of students smoked 10 or more days in the past 30 day.²⁰⁶ The 2006 Communities that Care Survey conducted by

²⁰³ These data are from the Orange County Community Health Assessment survey conducted by Orange County Health Department, April, 2007. See appendix for survey content.

²⁰⁴ The Health Consequences of Involuntary Exposure to Tobacco Smoke: A Report of the Surgeon General. Executive Summary. Washington, DC: Department of Health and Human Services, 2006. Page 6.

²⁰⁵ Herrick, Harry. The Association of Breastfeeding and Childhood Asthma: Results from the 2005 North Carolina Child Health Assessment and Monitoring Program. SCHS Studies, Number 152. NC State Center for Health Statistics, January 2007. Available from: URL: <http://www.schs.state.nc.us/SCHS/pdf/SCHS152.pdf>

²⁰⁶ Youth Behavior Risk Survey, 2007, Chapel Hill-Carrboro City Schools

Orange County Schools indicates that 8.1% of students (in 6th, 8th, and 10th grades) smoked 1 to 9 cigarettes in the past 30 days, while 5.7% of students have smoked 10 or more cigarettes in the past 30 days.²⁰⁷

Reduce cigarette smoking by high school students, grades 9 through 12 to 15.8%

According to the 2007 Chapel Hill-Carrboro City Schools YRBS, 9% of high school student smoked cigarettes 1 to 9 days in the past 30 days, and 3.2% of students smoked 10 or more days in the past 30 day.²⁰⁸ The 2006 Communities that Care Survey conducted by Orange County Schools indicates that 8.1% of students (in 6th, 8th, and 10th grades) smoked 1 to 9 days in the past 30 days, while 5.7% of students have smoked 10 or more days in the past 30 days.²⁰⁹

Decrease the percentage of children who begin to smoke before age 11 to 10%

The 2006 Communities that Care Survey conducted by Orange County Schools indicates that 6.7% of students surveyed began smoking under age 11, 10.8% began between ages 11 to 14 years, and 6.1% began after age 15.²¹⁰ Data for age of onset of smoking is unavailable for the Chapel Hill-Carrboro City Schools.

Reduce the percentage of retail outlets that sell tobacco products to minors to 5%

No data available on the percentage of retail outlets that sell tobacco products to minors. However, according to the 2006 Communities that Care Survey conducted by Orange County Schools, 56.6% of students surveyed said that businesses frequently or always ask for an ID from people buying alcohol or cigarettes.²¹¹

Healthy Carolinians 2010 objectives for tobacco use in adults are:

Reduce tobacco use (cigarette smoking) by adults to 12.5%

Based on the 2006 BRFSS, only 12% of Orange County adults reported that they smoked.²¹²

Impact

Research has demonstrated that there are many health consequences of tobacco use. Smoking causes heart disease, cancers of the lung, larynx, esophagus, pharynx, mouth, and bladder, and chronic lung disease. Tobacco also contributes to cancer of the pancreas, kidney, and cervix. In all, smoking is associated with 30% of all cancer deaths. Second hand smoke and smokeless tobacco also pose serious health risks. The Surgeon General's 2006 Report concluded that no amount of second-hand smoke exposure is safe. Exposure to secondhand smoke can cause heart disease and lung cancer among adults and lower respiratory tract infections among children.²¹³ Furthermore, smokeless tobacco causes a number of serious oral health problems including cancer of the mouth, periodontitis (gum disease) and tooth loss.

²⁰⁷ Communities that Care Survey, 2006, Orange County Schools

²⁰⁸ Youth Behavior Risk Survey, 2007, Chapel Hill-Carrboro City Schools

²⁰⁹ Communities that Care Survey, 2006, Orange County Schools

²¹⁰ Ibid

²¹¹ Ibid

²¹² BRFSS Survey Results 2006 for Orange County, Tobacco Use, Current Smoker

²¹³ Healthy Carolinians 2010, North Carolina's Plan for Health and Safety, Report of the Governor's Task Force for Healthy Carolinians, 2000. Pg. 120.

Smoking during pregnancy is also dangerous and can lead to spontaneous abortions, low birth weight babies, and sudden infant death syndrome.

Contributing Factors

When smoking is started at a young age it often becomes a life-long habit.

Environmental risk factors such as easy access and availability of tobacco products, cigarette advertising and promotion (including in movies), and affordable prices for tobacco products make smoking among young people more common.

Tobacco promotions and advertising efforts are responsible for much of the youth smoking initiation and prevalence. The tobacco industry spends \$15.15 billion per year promoting the use of tobacco. The release of new products and new packaging continues. See the below mention of new releases that appear to be aimed especially at female and youth consumers.

“The little box is black, sleek and shiny, with an elegant border of sophisticated teal or fuschia. On the shelf, it stands out. It’s chic, a little European, maybe a little “Sex and the City.” Then there’s the name: Camel No. 9. Perhaps it makes you think of a famous fragrance with a similar title. But these, of course, are cigarettes, not perfume. With the slogan “Light and Luscious,” the R.J. Reynolds Tobacco company launched its new cigarette in February, this one squarely aimed at women, with pretty magazine ads on thick, shiny paper and marketing evenings offering makeovers and free cigarettes. It’s what advertisers do all the time, right? Target the market segments they covet? So why have some people been offended over the last few months by the pinks, the florals, the hints of lace even, in the Camel ads? The answer depends on whom you think they’re targeting. Is it, as R.J. Reynolds contends, the established adult female smoker it seeks to lure from other brands? Or is it, as others argue, the teen, the college student or the young woman in her 20s, who hasn’t begun to smoke but is vulnerable to this message of sophisticated chic?”²¹⁴

Perceptions that tobacco use is normal, peers and siblings’ use / approval of tobacco use, and lack of parental involvement also contribute to young people taking up spit tobacco and smoking.²¹⁵

Data

Based on the combined data for Orange County Schools, Orange County has met the Healthy Carolinians objectives for smoking among middle and high school students with only 5.7% of middle school students smoking in the past 30 days and 12.2% of high school students smoking in the past 30 days within the Chapel Hill-Carrboro City Schools.²¹⁶ Within the Orange County School System, a total of 13.8% of students in grades 6th, 8th and 10th have smoked in the past 30 days.²¹⁷

Orange County has a smaller percentage of adults who smoke than many areas of NC, with only 12% of adults saying that they smoked some days or every day in 2006, compared to

²¹⁴ Published May 3, 2007, Fayetteville Observer, BizBits: Camel, by Jocelyn Noveck, AP National Writer

²¹⁵ Healthy Carolinians 2010, North Carolina’s Plan for Health and Safety, Report for the Governor’s Task Force for Healthy Carolinians, 2000. Page 120.

²¹⁶ Youth Behavior Risk Survey, 2007, Chapel Hill-Carrboro City Schools

²¹⁷ Communities that Care Survey, 2006, Orange County Schools

22.6% statewide.²¹⁸ Orange County has also reached the Healthy Carolinians objective of 12.5%.

Disparities

Men, minorities, and those with low income and educational levels are more likely to smoke than their counterparts. In the 2005 BRFSS, 16.5% of men and only 9.2% of women were regular smokers. In terms of race, 15.3% of minorities smoked versus only 12.2 % of whites. Interestingly, compared to 2002 BRFSS data; minorities smoke less now and whites smoke more. Among those with a high school education or less, 18.2% smoked but only 10.4% of those with some college smoked. And finally, 15.2% of those with household incomes of \$50,000 per year or less smoked, as opposed to only 10.2% of those with higher incomes.²¹⁹

Persons with disability are also more likely to smoke cigarettes. In the 2005 BRFSS, 63.1% of persons with disability reported smoking 100 cigarettes or more in the past year compared to 35.5% in the general population.

Community Survey Results²²⁰

Responses to the Community Health Assessment demonstrate that Orange County residents recognize that tobacco use is a serious health issue. In response to a list of health concerns, 23% of residents cited tobacco use as one of the three most important community health issues. In fact, it was ranked 5th on the list of concerns, as indicated on the graph below.

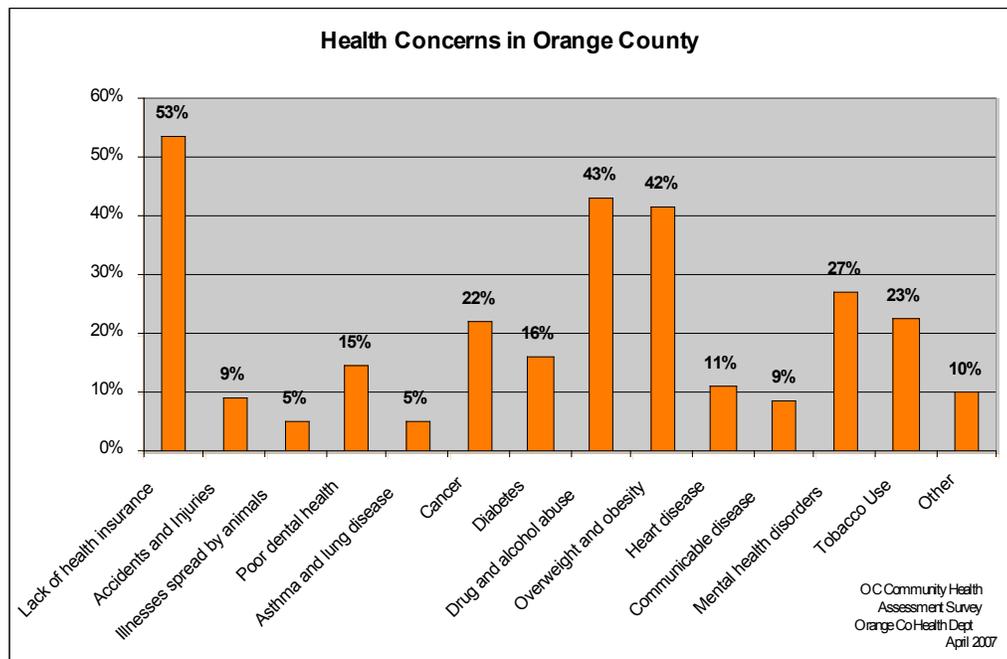


Figure 5-2, A-1: Responses to the survey question, “Which of these things stand out for you as important health issues in Orange County? Choose three.”

The level of concern about tobacco use among residents is highlighted in the responses to other questions as well. Results showed that 89% of Orange County citizens believe that

²¹⁸ BRFSS Survey Results 2005 for Orange County, Tobacco Use, Current Smoker.

²¹⁹ Ibid

²²⁰ These data are from the Orange County Community Health Assessment conducted by the Orange County Health Department, April, 2007. See appendix for survey content.

secondhand smoke is harmful to their health, while only 3% did not and 8% were not sure. According to the local survey, over 75% of respondents indicated that they do not smoke or use smokeless tobacco.²²¹ Of those in the local survey that do use tobacco products, many are clearly aware of the costs, both economic and otherwise, as well as the health risks. At least 72% of the smokers we spoke to would like help in quitting. Of course, this means that 28% of tobacco users surveyed did not express a desire to stop smoking. The addictive nature of nicotine makes the notion of quitting tobacco an extremely difficult and often unpleasant prospect for the tobacco user. Based on resident's responses as indicated in Figure 5-2, A-2 below, more awareness of smoking cessation support resources is needed.

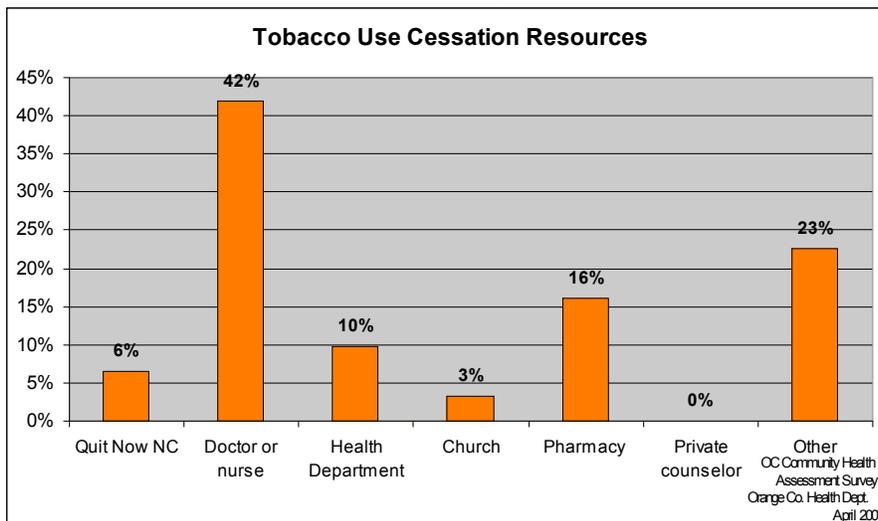


Figure 5-2, A-2: Responses to the survey question "If you currently smoke or use smokeless tobacco, where would you go for help in quitting?" NOTE: Most "Other" responses were, "just quit" or "go cold turkey."

The survey included other questions, related specifically to secondhand smoke, and the results are somewhat contradictory. For example, as noted above, 89% of respondents believe that it is harmful to their health. However, 26% of the residents surveyed prefer to eat in restaurants that have both smoking and no-smoking sections. It may be that these people respect the individual rights of others and therefore do not feel that smoking should be banned from public places altogether. On the other hand, perhaps they overestimate the ventilation systems in the separate sections of the restaurant. In addition, there are other places besides restaurants where people are exposed to environmental smoke. Of those surveyed, 63% indicated they are exposed to secondhand smoke in a number of locations. See Figure 5-2, A-3 below.

²²¹ Please note, this figure differs from the one quoted above, which draws its data from the BRFSS 2005 Survey results for Orange County. One explanation for the discrepancy may be that the BRFSS survey question relates to smoking only, whereas the community survey question addressed all tobacco use, including smokeless tobacco.

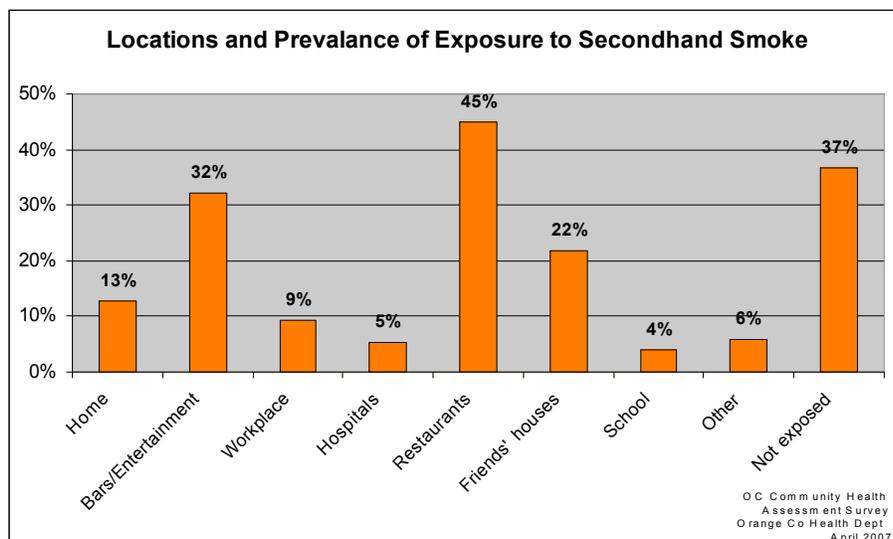


Figure 5-2, A-3: Responses to the survey question, "Are you exposed to secondhand smoke at any of the following places? Please answer yes to all that apply?"

Resources

Many initiatives are underway to help people quit smoking on a state and local level including the *Quit Now NC!* website (www.QuitlineNC.com), a free hotline that offers cessation counseling to individuals from 8 a.m. to midnight, every day of the week. The Quitline phone number is 1-800-QUIT-NOW. This is a proactive line, so once callers phone in for quit assistance, the cessation counselor is able to call them back to offer support throughout the quit attempt.

Recently, the state raised the tobacco tax by 40 cents. The tobacco tax was raised in order to increase the price of cigarettes and thus reduce the number of young people who begin smoking. In July 2006, Orange County Health Department was awarded a second three-year, \$289,000 grant by the North Carolina Health and Wellness Trust Fund to continue its Tobacco Reality Unfiltered (TRU) youth program. The TRU Club is a school-based group that works in schools and in the community on teen tobacco use prevention and cessation. There are plans to expand these school groups to work together collaboratively as two large community groups (rural Orange and Chapel Hill/Carrboro). This is the second phase of funding for Orange County. This project was funded beginning in January 2003. Both school systems in Orange County have been 100% tobacco-free on campus since 2003.

Gaps and Unmet Needs

There is a need for cessation programs that are easily accessible to the community of smokers who want to quit. More insurance plans need to offer preventive benefits to help cover the cost of smoking cessation aids such as nicotine patches, gum, and medications to aid in cessation. These two areas for improvement are particularly urgent as UNC Hospitals transitioned to 100% Tobacco-Free in July 2007. Such policies encourage tobacco-users to quit and the appropriate resources should be in place to help with this behavior change.

Emerging Issues

The increase in tobacco-free environments continues across the state. Approximately 70% of the state's hospitals and school districts are now 100% tobacco-free campus-wide. At UNC Hospitals, educational materials and signage announcing the new policy are pervasive. Employees, patients, and visitors are not permitted to use tobacco products anywhere on the

hospital grounds. This is to protect all present on the site from any exposure to secondhand smoke. Employees will not be permitted to use tobacco products during paid work time. They will have to use unpaid time to leave the hospital campus in order to use tobacco.

This policy initiative is coupled with two other new initiatives. First, the State Health Plan of NC has indefinitely extended its offer of the Nicotine Replacement Therapy patch at no-cost, when coupled with counseling (e.g. with the NC Quit Line). Zyban and Chantix are also available for a low co-pay through the State Health Plan of North Carolina. Access and use of such medications double the success rate of a tobacco user's quit attempt. Additionally, the hospital has launched a physician training program, led by Adam Goldstein, MD, to increase physician knowledge of how to inquire of all patients if they are using tobacco and then to counsel and support them in quitting. This will increase the quit attempts among UNC-CH patients who are tobacco users. Follow-up will be supplied either by the in-house tobacco cessation program or by referring patients to the NC Quitline. The NC Quitline is paid for by funds from the Health & Wellness Trust Fund Commission, the CDC, and Blue Cross Blue Shield of NC.

As UNC Hospitals goes tobacco-free, interest is heightening from other areas of the campus, such as the School of Public Health and the other health science schools, to do likewise.

During the summer of 2006, the NC General Assembly voted to become tobacco-free, and voted for enabling legislation for the community colleges to go tobacco-free campus wide. These votes were certainly considered public health successes.

This year a number of new bills were introduced which would allow all government buildings to go tobacco-free, and to overturn pre-emption. Unfortunately a recent bill, HB 259, introduced by NC Representative Hugh Holliman which would have made most restaurants and many bars in North Carolina tobacco-free, was defeated. This was a major setback, especially given that polls show strong support among voters for tobacco-free worksites. A bill was passed to allow local governments to pass policies making all government buildings smoke free.

While it is important to continue to advocate for smoke-free environments, the 2006-2007 NC Restaurant Heart Health Survey results show that 77.1% of restaurants who participated in the survey were smoke-free. This is significantly higher than the statewide average of 52%. The survey also indicated that there is minimal interest from restaurants for assistance with smoke-free dining. 13.3% of restaurants in Orange County were interested compared to the 23.3% statewide average.²²²

B) Nutrition

Healthy Carolinians 2010 Objectives related to nutrition are:

Increase the proportion of adults eating five or more servings of fruits and vegetables each day to 25.1 percent

In the 2005 Behavior Risk Factor Surveillance System, 32.3% of adults stated that they ate 5 or more fruits and vegetables per day.²²³

²²² 2006-2007 N.C. Restaurant Heart Health Survey, Division of Public Health, Heart Disease and Stroke Prevention, Tobacco Prevention and Control and Physical Activity and Nutrition Branches

²²³ BRFSS Survey Results 2005 for Orange County, Nutrition. Accessed March 9, 2007 at : http://www.schs.state.nc.us/SCHS/brfss/2005/oran/_ftrindx.html

Increase the percent of middle school and high school students who eat any fruit or juice on a given day to 95 percent

In the 2005, Youth Risk Behavior Survey (YRBS), 38.6% of all middle school students and 89% of all high school students in the central region of NC reported that they ate one or more fruits on a given day.²²⁴ Data from the 2007 Chapel Hill-Carrboro City Schools YRBS, indicates that 29.3% of high school students consumed 100% fruit juice one or more times per day, and 42.1% consumed fruit one or more times a day.²²⁵

- *Results cannot be generalized.*
- *No data available specific to Orange County other than the Chapel Hill-Carrboro High School data*

Increase the percent of middle school and high school students who eat any vegetables on a given day to 95 percent

In the 2005 YRBS, 31% of middle school students and 88.8% of high school students in the central region of NC reported eating vegetables once or more on a given day.²²⁶ No data available for the percent of students who consumed 5 or more vegetables per day.

- *Results cannot be generalized*
- *No data available specific to Orange County*

Decrease the percent of middle school and high school students who eat high-fat meats on a given day to 50 percent

No local data available

Decrease the percent of students who eat high-sugar snack foods on a given day to 50 percent

No local data available

Impact

Healthy eating habits throughout life provide the foundation for health and well-being. Unhealthy eating habits are a major contributor to the burden of preventable diseases. Leading causes of morbidity and mortality including heart disease, cancer, stroke and diabetes are all diet-related. "At least 20 to 40 percent of all deaths from heart disease and 40 percent of all deaths from cancer are associated with the typical American high-fat, low-fiber diet."²²⁷ Overweight and obesity are also closely linked to poor nutrition and contribute to the burden of illness (see above section on obesity).

Research has shown strong and consistent patterns of relationships between a diet rich in whole grains, fruits, vegetables, low fat dairy products, lean meats and meat alternatives, and a lowered risk of a number of chronic diseases. Epidemiological, ecological, and some experimental studies have shown compelling evidence supporting this relationship.

²²⁴ 2005 N.C. Youth Risk Behavior Survey, Accessed 7/20/07 at <http://www.nchealthyschools.org/data/yrbs/>.

²²⁵ 2007 Youth Risk Behavior Survey, Chapel Hill-Carrboro City Schools

²²⁶ 2005 N.C. Youth Risk Behavior Survey, Accessed 7/20/07 at <http://www.nchealthyschools.org/data/yrbs/>.

²²⁷ Healthy Carolinians 2010, North Carolina's Plan for Health and Safety, Report of the Governor's Task Force on Healthy Carolinians 2000, pg 100

Malnutrition is also a problem for some members of our community. Please refer to the section on Hunger in Chapter 4 for additional information on this issue.

Contributing Factors

Among school-age children, the choice of foods in school food programs, school cafeterias and vending machines have an effect on the type of foods eaten more often. The types of food offered to children in schools and the availability of soda and high-fat, high-sugar snacks in vending machines at schools is concerning.

Family and the home environment also influence the types of foods children eat. Children often rely on their parents to shop for food and prepare meals, thus it is important for parents to model healthy behaviors and make an effort to purchase healthy foods and prepare meals at home rather than dining out.

Media and the prevalence of fast food establishments also influence the types of foods people eat. Research also shows that there is a strong association between breastfeeding and the decreased incidence of overweight and obesity.²²⁸

Among adults, unhealthy eating habits and lack of exercise and physical activity are two of the primary factors for the rise in obesity. However, according to the community survey results, resident's reasons for unhealthy behaviors vary. Lack of education is a major contributor to unhealthy dietary behaviors. Many adults indicate that they lack the knowledge about what food choices are healthy, as well as how much they should eat (portion control). Lack of time and a cost are also factors that prevent many adults from buying and preparing healthier foods.

Data

In the 2005 BRFSS, 32.3% percent of adults stated that they ate five or more servings of fruits and vegetables per day, which exceeds the Healthy Carolinians 2010 goal of 25.1%, and is higher than the state level (22.5%). According to the 2007 Chapel Hill-Carrboro City Schools YRBS, 29.3% of high school students drank 100% fruit juice one or more times a day, 42.1% consumed fruit once or more per day and 18% ate green salad once or more times per day.²²⁹ Current dietary guidelines recommend for both children and adults to consume five or more servings of fruit and vegetables each day for good health.²³⁰ The data collected by both the YRBS and the BRFSS would suggest that few residents are eating the recommended amount of fruits and vegetables for a healthy diet. This data is comparable to both State and National data.

In addition to the YRBS data above, (shown in comparison to the Healthy Carolinians objectives), the 2007 Chapel-Hill Carrboro City Schools YRBS examined student dietary behaviors related to the consumption of milk, to vending machine purchases and to those who eat breakfast. Results show that 45.2% of high school students drank one or more glasses of milk per day.²³¹ Regionally, 11.3% of high school students in the Central Region

²²⁸ CDC, Resource Guide for Nutrition and Physical Activity Interventions. Accessed on September 4, 2007 at http://www.cdc.gov/nccdphp/dnpa/pdf/guidance_document_3_2003.pdf.

to Prevent Obesity and Other Chronic Diseases

²²⁹ 2007 Youth Risk Behavior Survey, Chapel Hill-Carrboro City Schools

²³⁰ US Department of Agriculture, 2005, Dietary Guidelines for Americans. Accessed August 20, 2007 at www.healthierus.gov/dietaryguidelines

²³¹ 2007 Youth Risk Behavior Survey, Chapel hill-Carrboro City Schools

and 13.5% of middle school students drank three or more glasses of milk in the last seven days, compared to the 15.3% statewide.²³² Results cannot be generalized. Current recommendations are for children to drink three glasses of low-fat milk per day or to consume at least three sources of calcium-rich foods per day.²³³ The data suggests that few children are drinking the recommended amount of milk per day.

When asked about the number of times they purchased food from the vending machine, 30.1% of high school students and 23.3% of middle school students reported buying food from the vending machine in the past seven days. Another 58.3% of high school students and 75.4% of middle school students reported eating breakfast five or more days of the week, while 11.6% of high school and 10% middle school students reported not eating breakfast any day of the week.²³⁴

The 2007 Heart Health Survey, which looked at restaurant policies or procedures around smoking and nutrition, found that 28.7% of participating restaurants in Orange County labeled healthy items on their menu, compared to 28.3% statewide. (Note: the menu items labeled as “healthy” do not necessarily meet nutritional standards; they merely represent the presence of cues on printed or posted menus.)²³⁵ Another 21% of restaurants were interested in assistance with healthy menu labeling. Almost 37% of restaurants surveyed offer reduced size portions, compared to the 50.1% statewide. Results from the survey indicate that there is a need in Orange County to work with restaurants to offer and promote more healthful food options.²³⁶ Food labeling and a larger selection of healthy options would make it easier for residents who are trying to eat healthier, to do so.

Disparities

Based on the BRFSS from 2005, women ate more fruit and vegetables than men, and whites ate more fruits and vegetables than minority populations. Those with higher incomes, more education and over the age of 45 years also consumed more fruits and vegetables than their counterparts.²³⁷ This data would suggest that more work needs to be done to educate the minority and the low-income community about the importance of eating fruits and vegetables, and efforts need to be made to make fresh fruits and vegetables available and affordable to these residents.

Because school food programs are subsidized for low-income families, children from lower income families are more likely to eat the food offered by the school.

Community Survey Data²³⁸

As noted above, time and cost were the most frequently cited barriers to eating a healthy diet. Interestingly, almost half of those surveyed indicated that it was not difficult for them to eat healthy. Approximately 36% of those surveyed said time to shop and prepare healthy

²³² 2005 N.C. Youth Risk Behavior Survey, Accessed 7/20/07 at <http://www.nchealthyschools.org/data/yrbs/>.

²³³ US Department of 2005, Dietary Guidelines for Americans. Accessed 8/20/07 at

www.healthierus.gov/dietaryguidelines

²³⁴ 2007 Youth Risk Behavior Survey, Chapel Hill-Carrboro City Schools

²³⁵ North Carolina department of Health and Human Services, 2006-2007 N.C. Restaurant Heart Health Survey Statewide Report

²³⁶ Ibid

²³⁷ BRFSS Survey Results 2005 for Orange County, Fruits and Vegetables, Fruit and Vegetable Consumption per day

²³⁸ These data are from the Orange County Community Health Assessment survey conducted by the Orange County Health Department, April, 2007. See appendix for survey content.

meals was their greatest challenge, while 27% blamed the cost of eating healthy. Another 25% indicated that there are few healthy choices when eating out. The same survey showed that 36% of residents eat outside the home at least two to three times per week further indication that more efforts need to be done to promote healthier options on the menu and better labeling of these options It is clear that those who feel that they cannot sustain a healthy diet due to cost would benefit from nutrition education programs designed to educate residents on how to eat healthy on a budget. See graphs below for applicable survey responses.

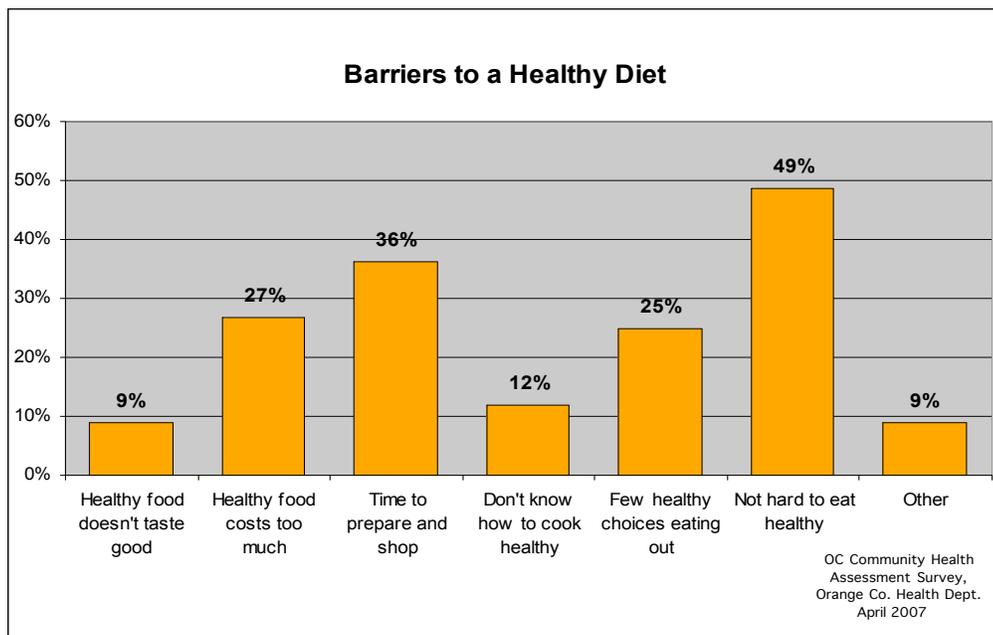


Figure 5-2, B-1: Responses to the survey question “What do you think makes it hard for you to eat healthy?”

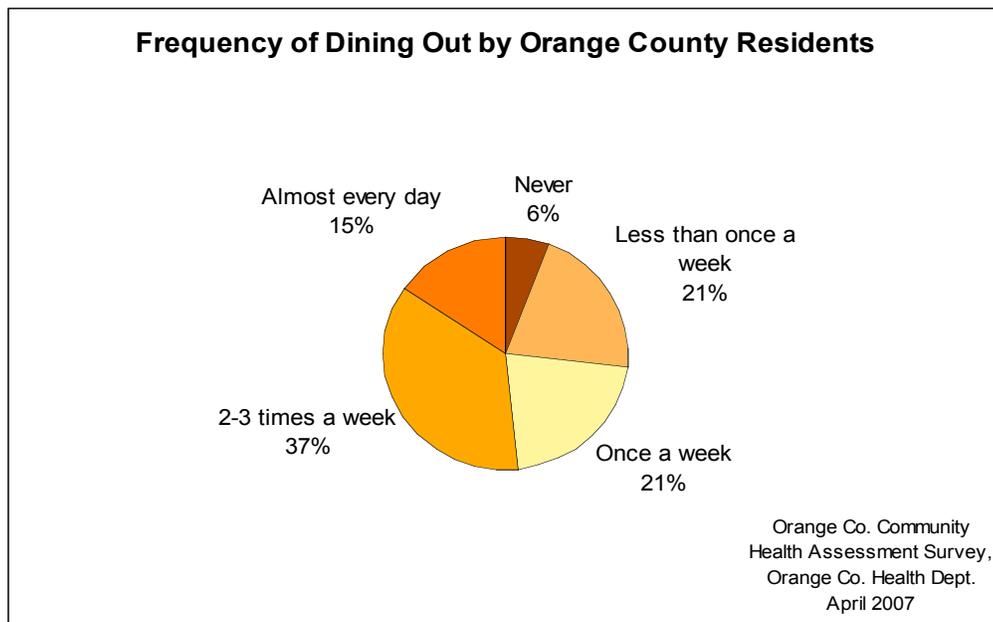


Figure 5-2, B-2: Responses to the survey question, “How many times a week do you eat meals that were not prepared at home, like from restaurants, cafeterias, or fast food?”

The survey also included a question about types of beverages consumed on a daily basis, and results indicate that while 22% of respondents drink three or more sweetened drinks per day, 56% drink none.

Many residents already feel that they are healthy and have good nutritional habits. Only 2% of those surveyed felt that their overall diet was poor. On the other hand, a combined 53% believe that their overall diet is very good or excellent (see graph below). However, we also know that the rates of overweight and obesity are on the rise in Orange County, as they are across the state and around the country. It is possible that there is a gap between perception and reality when it comes to eating healthy. Alternatively, it may be a lack of a clear understanding of what it means to eat a balanced, nutritious diet. Because of the link between nutrition and obesity and other chronic diseases, it is crucial that more educational outreach resources be dedicated to raising awareness and promoting healthy lifestyle choices.

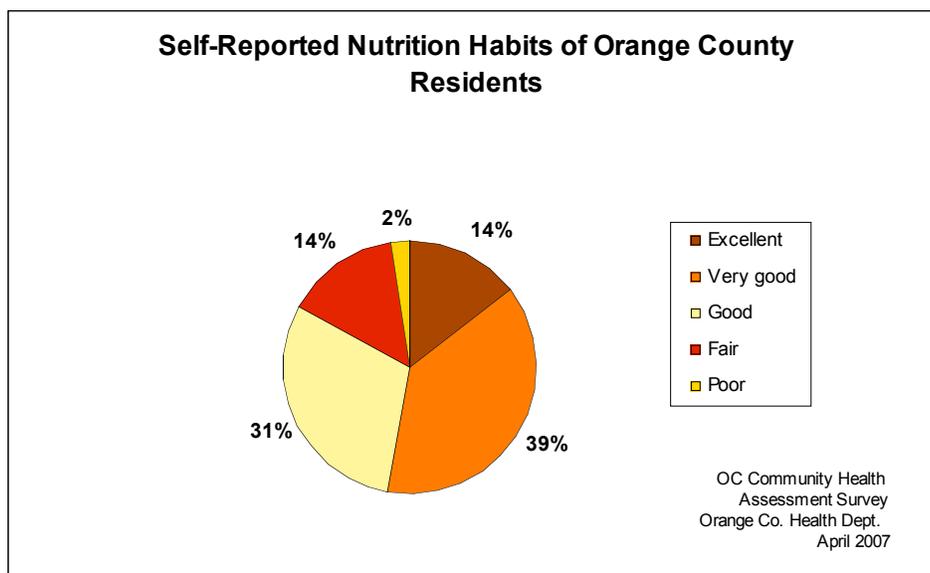


Figure 5-2, B-3: Responses to the survey question, “In general, how healthy would you say your overall diet is?”

Resources

In January 2004, the NC State Departments of Public Instruction and Health and Human Services released a document entitled “Eat Smart: North Carolina’s Recommended Standards for All Foods Available in Schools.” This document set forth recommended standards for nutrition in schools to encourage gradual change of school-wide practice over the next decade.

Both Chapel Hill-Carrboro City Schools and Orange County schools established new Wellness Policies to meet federal requirement to have a local Wellness Policy that addresses wellness, physical activity and nutrition education. The Chapel Hill-Carrboro Schools implemented new nutrition and wellness policies with the intent of achieving the highest of four levels of nutritional standards, addressing nutrition education, types of beverages that can be sold (no soft drinks, only low-fat or skim milk, 100% juice and water), limitations on bake sales, concessions, fundraising activities and food safety. The Chapel Hill-Carrboro schools also implemented the *Eating Smart and Moving More is as Easy as 5-4-3-2-1 Go!*

program, which serves as the basis for nutrition education. They have also added food kiosks and salad bars to offer students a wider selection of healthier food choices.

The Orange County School district has also implemented the new wellness policy and are now offering healthy nonfood and food choices at school events such as classroom celebrations, fundraisers and extracurricular activities. The school district also collaborated with Cooperative Extension to implement a 10-week Eat Smart Move More Family Challenge. They also promote National School Lunch week and National Nutrition Month activities in all school cafeterias. Additionally, in partnership with Cooperative Extension, the district implemented a Students Eating Smart/Moving More Advisory Club in one of the high schools and Offered Taste Testing Classes at the elementary and high school levels.

The Orange County Health Department offers a variety of nutrition and health promotion programs in the community including: individual nutrition counseling on a sliding scale fee, weight management classes for all age groups and nutrition education classes/programs for seniors and county employees. The department also coordinates nutrition programming with local churches and partners with Cooperative Extension and the school systems for larger scale projects explained in detail below. Additionally, to help increase awareness of healthier behaviors, the department submits media articles to the local newspaper.

Cooperative Extension provides educational workshops to the general public, to county and municipal employees, and to special groups. Through Cooperative Extension's Expanded Foods and Nutrition Program (EFNEP) limited resource families with children are taught how to prepare nutritious meals. The staff offers classes in English and in Spanish for families, and one staff member offers nutrition education to limited resource youth. Cooperative Extension coordinates the Orange on the Move Coalition, made up of local partners such as the schools, the health department, the YMCA, Triangle Sportsplex, Go! Chapel Hill, and the Orange County Partnership for Young Children. The Coalition promotes nutrition and physical activity to families and their children. Some of the Coalition's projects include designing the after-school snack menu for Orange County schools, providing nutrition education to students at school, holding county wide nutrition and physical activity events in April, doing an Eating Smart and Moving More as Easy as 5-4-3-2-1 Family Challenge, and doing a healthy weight program, called PAYOFF for youth and their families. Cooperative Extension organized the Orange-Chatham Breastfeeding Support Coalition several years ago. Cooperative Extension partners with Piedmont Health Services, UNC Hospitals, and the Orange County Health Department, to provide a Breastfeeding Support Program for English and Spanish-speaking mothers who are interested in breastfeeding their babies to assure that they have a successful breastfeeding experience.

The University of North Carolina developed the Nutrition and Physical Activity Self Assessment for Child Care (NAP-SACC) program, an intervention in child care centers aimed at improving nutrition and the physical activity environment, policies and practices through self-assessment and targeted technical assistance.

Food Stamps and WIC are also important nutrition benefits for low-income families in the County, especially mothers and children. A new federal program allows families receiving WIC to use special vouchers to purchase fresh fruits and vegetables at farmers markets. As mentioned above under the obesity section, many programs are working together to improve the school nutrition environment.

In addition to local agencies and programs, Orange County also has two community gardens that residents can use. One is located at the Chapel Hill Community Center and the other is located at the Martin Luther King, Jr. Park in Carrboro. Cooperative Extension provides education and support to people interested in doing community gardening through its Bountiful Harvest program.

Gaps and Unmet Needs

Despite efforts by agencies like the Health Department, Cooperative Extension, and the schools to provide residents with education about the importance of diet and nutrition, residents feel they do not know how to eat in a way that promotes good health. Resident's inability to afford healthy foods like fresh fruits and vegetables is a source of frustration and many residents feel that policy changes should be implemented so that healthy food is affordable to all. Despite resident's beliefs, healthy eating is really not more expensive, and education needs to be done to show residents how to eat healthily on a budget. Health promotion and public awareness are the keys to changing eating behaviors.

There is a need for more nutrition health education for the public and within the schools. However, there are insufficient resources or staff to provide the needed nutrition classes and interventions on an individual, group, or organizational level. For minorities, particularly the Latino population, access is a big issue. Cost, lack of bicultural/bilingual professionals, and lack of classes/services offered in Spanish are all barriers to better nutrition for the Latino population.

Within the schools, there is a lack of funding to provide needed nutrition services. They need a registered dietitian or health educator to provide services. Additionally, there are often inconsistencies in policies and promotions school to school and teacher to teacher, which make it difficult to provide consistent messages to students. It is also important to involve the children's parents and families, through outreach and promotional efforts, because even though kids learn about nutrition and health in schools, they go home to the environments that do not always support healthy eating. Some parents have also commented on the need for more education about eating disorders because children frequently talk about eating and being overweight.

Among the older adult population, there needs to be more opportunities for nutrition counseling/education. Seniors should not have to wait until something is wrong before they can see a nutritionist.

While there are healthy options readily available, unhealthy options are even more readily available. In additions to programs and services, we need to assess our environments and find ways to make them more conducive to and supportive of healthy living.

Emerging Issues

Poor nutrition and obesity are emerging as two of the leading causes of morbidity and mortality in our communities. Citizens of all ages are aware of the ways that poor diet negatively impacts their lives. New, innovative strategies to help people recognize ways they can improve their diet and nutrition will be essential if people are to manage this problem effectively in the long-term.

Policies must be shaped to improve access to healthy foods in public settings by working with farmer's markets and cooperatives to provide locally grown foods in the schools, hospitals, and neighborhoods. As the public becomes more aware of the benefits of a

healthy diet, systems will begin to change, current resources will be directed and new ones added.

The schools systems are faced with food commodities that do not keep up with the nutrition policies for the state. The food vendors need to supply the schools with foods that have good nutritional quality, while keeping costs down.

As more immigrants move into the area and the community continues to diversify, we will need to keep up with the cultural and linguistic needs of the community.

C) Physical Activity

Healthy Carolinians 2010 objectives for physical activity in children and adolescents are:

Increase the proportion of middle and high school students who report participating in vigorous physical activity for at least 20 minutes on 3 or more of the previous 7 days to 80 percent

No data specific to vigorous activity. See data below.

Increase the proportion of middle and high school students who report participating in moderate physical activity for at least 30 minutes on 5 or more of the previous 7 days (no baseline)

No data specific to moderate activity.

According to the 2007 Chapel Hill-Carrboro City Schools Youth Risk Behavior Survey, an average of 76.1% of middle school and 54.2% of high school students were physically active for at least 60 minutes 5 or more days in the past 7 days.²³⁹ No data is available for the Orange County School system. Physically active was defined as “an activity that increases your heart rate and makes you breathe hard for some time.”

Healthy Carolinians 2010 objectives for physical activity in adults are:

Increase the proportion of adults (18 to 59 years old) who engage in physical activity for at least 30 minutes on 5 or more days of the week to 20 percent

Based on the 2005 BRFSS, 52.9 % of adults participated in the recommended amount of physical activity.²⁴⁰

Reduce the proportion of adults (18 to 59 years old) who engage in no leisure-time physical activity to 29 percent

Based on the 2005 BRFSS, 16.5% of adults participated in no leisure time physical activity. This is down from 22.5% in 2002. However, 68% of respondents cited no vigorous leisure-time physical activity.²⁴¹

Increase the proportion of senior citizens (60 years or older) who engage in physical activity for at least 30 minutes on 5 or more days of the week to xx percent.

Recommend this question be addressed in the next survey

²³⁹ Youth Behavior Risk Survey, 2007, Chapel Hill-Carrboro City Schools

²⁴⁰ BRFSS Survey Results 2005, accessed on 8/14/07 at <http://www.schs.state.nc.us/SCHS/pdf/BRFSSReport2005.pdf>

²⁴¹ Ibid

Reduce the proportion of senior citizens (60 years or older) who engage in no leisure-time physical activity to xx percent.

Recommend this question be addressed in the next survey

Impact

Physical activity can enhance the quality of life for people of all ages. Regular physical activity helps build and maintain healthy bones and muscles, control weight, and reduce fat. It also reduces feelings of depression and anxiety, while promoting psychological well-being. Regular physical activity can also reduce the risk of heart disease, diabetes, some types of cancer and high blood pressure.²⁴² "Public health experts estimate that 26% of total premature deaths result from a lack of regular physical activity and poor nutrition."²⁴³

Contributing Factors

The Centers for Disease Control and Prevention and American College of Sports Medicine recommended that adults engage in moderate-intense physical activities for at least 30 minutes on 5 or more days of the week. It is recommended that children and adolescents engage in at least 60 minutes of moderate intensity physical activity most days of the week, preferably daily.²⁴⁴

Physical activity patterns in the U.S have changed dramatically over time. Individuals now face many barriers to engaging in regular physical activity such as lack of time, lack of access to convenient facilities, and lack of safe environments in which to be active.²⁴⁵ Children also have less opportunity to be physically active during the school day because fewer children walk or bike to school and the amount of time dedicated to recess and P.E. classes has decreased or been eliminated completely.²⁴⁶ The increase in the amount of "screen time" or time spent viewing television and using the computer has also contributed to the sedentary behavior in the U.S. It is estimated that every household has at least one television, with nearly 80% having multiple television sets.²⁴⁷ The American Academy of Pediatrics recommends that children under two be limited to one to two hours of television or screen time per day.²⁴⁸

Data

Children and Adolescents

According to the 2007 Chapel Hill-Carrboro City Schools Youth Risk Behavior Survey, an average of 84.2% of middle school and 72.2% of high school students are meeting the recommendations for physical activity (engaging in physical activity for at least 60 minutes most days of the week).²⁴⁹ Orange County has a higher percent of students meeting the recommendations compared to statewide (44.6%).²⁵⁰

²⁴² Healthy Carolinians 2010, North Carolina's Plan for Health and Safety, Report of the Governor's Task Force for Healthy Carolinians, 2000. Pg 105.

²⁴³ Ibid

²⁴⁴ Centers for Disease Control and Prevention, Accessed on 8/14/07 at <http://www.cdc.gov/nccdphp/dnpa/physical/recommendations/index.htm>

²⁴⁵ Ibid

²⁴⁶ Ibid

²⁴⁷ Eat Smart Move More : NC Plan to Prevent Overweight, Obesity, and Related Chronic Diseases, Accessed 8/14/07 at http://www.eatrightnc.org/PDF2007/esmm_state_plan_desktop_printer_ver.pdf

²⁴⁸ American Academy of Pediatrics, Family and Television, Accessed 8/16/07 at <http://www.aap.org/family/tv1.htm>

²⁴⁹ Youth Behavior Risk Survey, 2007, Chapel Hill-Carrboro City Schools

²⁵⁰ 2005 N.C. Youth Behavior Risk Survey, Physical Activity

The amount of “screen time” children are exposed to is a growing concern as the average amount of time Americans spend in front of the television, computer, or video games has increased.²⁵¹ When asked “on an average school day how many hours do you watch TV,” 19.1% of middle school and 22.8% of high school students in the Chapel Hill-Carrboro City Schools reported that they do not watch TV on school days, while 45.4% and 42.6% reported two hours or less of TV time. The other 19% and 16.8% of middle and high school students reported watching three or more hours of TV on an average school day.²⁵² Orange County rates are lower compared to the 36.3% of students statewide who watch three or more hours of TV on an average school day.²⁵³ Data from the YRBS indicates that the majority of Chapel Hill-Carrboro students currently watch less than two hours of television per day. This data cannot be generalized for students across the county. See Figure 5-2, C-1 below.

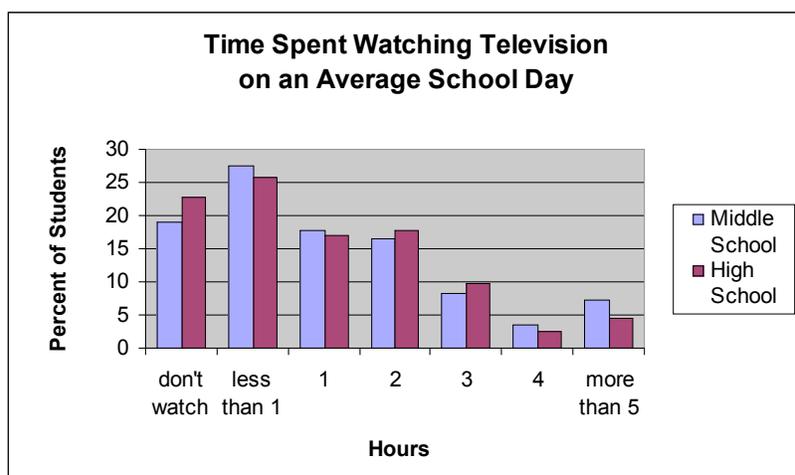


Figure 5-2, C-1: Average time students spend watching television on an average school day

As mentioned above, children have less opportunity to engage in physical activity during the day. Similar to national statistics, the number of children who walk or ride their bike to school in Orange County is low. In the Chapel Hill-Carrboro City School System, only 9.1% of middle school students and 8.5% of high school students reported that they walk or ride their bike to school on three or more days per week.²⁵⁴ Furthermore, as children get older, the number of students who attend physical education (PE) classes significantly decreases. In the Chapel Hill-Carrboro City Schools, 64.6% of high school students attended **no** PE classes during the week compared to 6.3% of middle school students. There is also a large gap in the number of students who attend daily PE classes, 88.4% of middle school students attend daily PE classes, while only 29.5% of high school students attend daily PE classes.²⁵⁵ See Figure 5-2, C-2 below. (Data cannot be generalized to all students county-wide.) This is concerning as the rates of physical activity tend to decline as children get older, while the rates of obesity increase. Providing more opportunity for high school students to be active would be beneficial.

²⁵¹ U.S Census Bureau, Statistical Abstract of the United States, 2006. Section 24: Communication and Technology: www.census.gov/prod/2005 pubs/.

²⁵² Youth Behavior Risk Survey, 2007, Chapel Hill-Carrboro City Schools

²⁵³ 2005 N.C. Youth Behavior Risk Survey, Physical Activity

²⁵⁴ Youth Behavior Risk Survey, 2007, Chapel Hill-Carrboro City Schools

²⁵⁵ Ibid

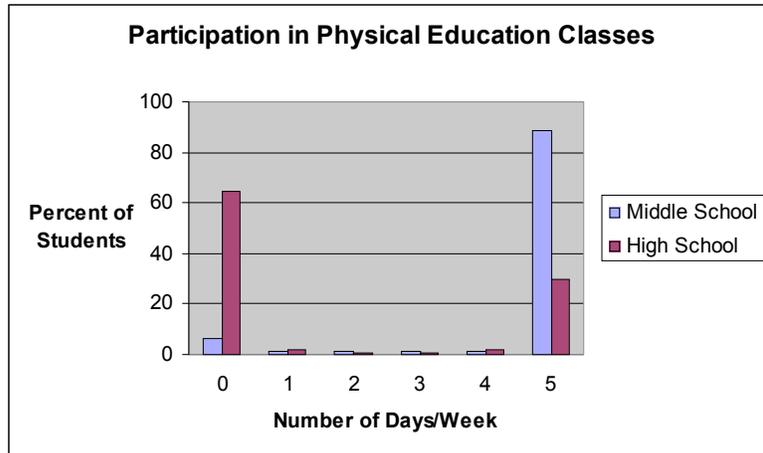


Figure 5-2, C-2: Number of days students attend physical education classes each week

Adults

Orange County is currently meeting the Healthy Carolinians Objective for the recommended amount of physical activity for adults, with 52.9% of Orange County adults reporting that they exercise for 30 minutes or more on most days of the week. The survey distinguishes between moderate and vigorous activity. Of those surveyed, 36.2% of adults reported engaging in 21 to 30 minutes of moderate activity, and 33.4% reported engaging in 31 to 60 minutes of moderate activity. Meanwhile, 34.1% of adults reported engaging in 21 to 30 minutes of vigorous activities, and 36.1% reported engaging in 31-60 minutes of vigorous activities.²⁵⁶ Overall, Orange County has higher rates of both moderate and vigorous activity than the state average, which ranges from 30% to 36.3%.

When asked “are you trying to increase your daily amount of physical activity or exercise,” 65.8% of adults said yes, 72.7% of all women and 59.3% of all men.²⁵⁷ This indicates that Orange County residents are interested and are trying to improve their levels of activity. This presents a great opportunity for intervention through increased awareness of the opportunities for physical activity and recreation in the county.

Orange County is also meeting the Healthy Carolinians objective for the number of adults who participate in no leisure-time physical activity, with only 16.5% of adults reporting no leisure time activity.²⁵⁸ This number has fallen slightly from 22.5% in 2002.

Employee’s place of work offer opportunities to increase activity levels as well. In Orange County, 65.7% of all respondents, and 71% of females, reported mostly sitting or standing at work, compared to the 29.4% who reported mostly walking and the 9% who reported heavy labor. Creating more opportunity for employees to be active at work through programs, flex time, incentives and other opportunities, would be beneficial.²⁵⁹

²⁵⁶ BRFSS Survey Results 2005, accessed on 8/14/07 at <http://www.schs.state.nc.us/SCHS/pdf/BRFSSReport2005.pdf>

²⁵⁷ Ibid

²⁵⁸ Ibid

²⁵⁹ Ibid

Although Orange County has a more physically active population than the state (37.7%)²⁶⁰ and has met or exceeded the 2010 goals, there are still opportunities for improvement in all areas, and particularly in the high school age population.

Older Adults (65 years and over)

There are limited data sources that collect information on physical activity level specific to older adults in Orange County. However, stats on services provided through the Wellness Programs of the Department on Aging for 2006 show that there were 1,337 individuals who participated in fitness and other wellness classes, a 9% increase over the 1,213 individuals who participated in 2005.²⁶¹

Disparities

Students in the CHCCS middle schools get more exercise than those in high school.

Among adults, people with higher education and income are more likely to be physically active than those with a lower income and education level. Whites are more physically active than non-whites and men are more physically active than women. Disparities in income seem to impact fitness consumers in two ways. Primarily, people with low incomes are less able to afford access to resources including parks and recreation programs, fitness centers, and walkable neighborhoods. Many low-income residents may be working two jobs and simply do not have leisure time to devote to physical activity. In addition, those with low incomes are less likely to work for employers who offer health-club or other physical fitness benefits as a part of their employment compensation. Indeed, many residents and health-care providers expressed concern that some of the county's biggest employers, including the University, are cutting back or eliminating fitness programs available to employees. In addition, the Northern portion of the County has fewer parks and recreational areas than the south, but there are still resources available including the Triangle Sportsplex, the Little River Regional Park and Natural Area, and various Orange County Recreation and Parks programs.

Community Survey Results²⁶²

As part of the 2007 Community Survey, residents were asked about their exercise habits and obstacles that prevented them from being more physically active. As noted above, time is often the biggest factor, which also came out in the survey results. (See graph below.) The fact that bad weather was cited as such a critical factor may point to the need for more convenient indoor recreational facilities. It is interesting to note that 16% indicated that they do not want to be more active. It is of course possible that some of these respondents are already quite physically active. On the other hand, it may be that they are not aware of the numerous health benefits of being active and, alternatively, the health consequences of being inactive. The same number of people blamed their inactivity on having too many aches and pains. Again, an appropriate level of physical activity, based on individual needs and limitations, can have a tremendous positive effect on physical pain and discomfort. This data suggests that there is a need for greater community education and intervention.

²⁶⁰ Ibid

²⁶¹ Personal Communication with Myra Austin, Orange County Department on Aging, on August 23, 2007.

²⁶² These data are from the Orange County Community Health Assessment survey conducted by the Orange County Health Department, April, 2007. See appendix for survey content.

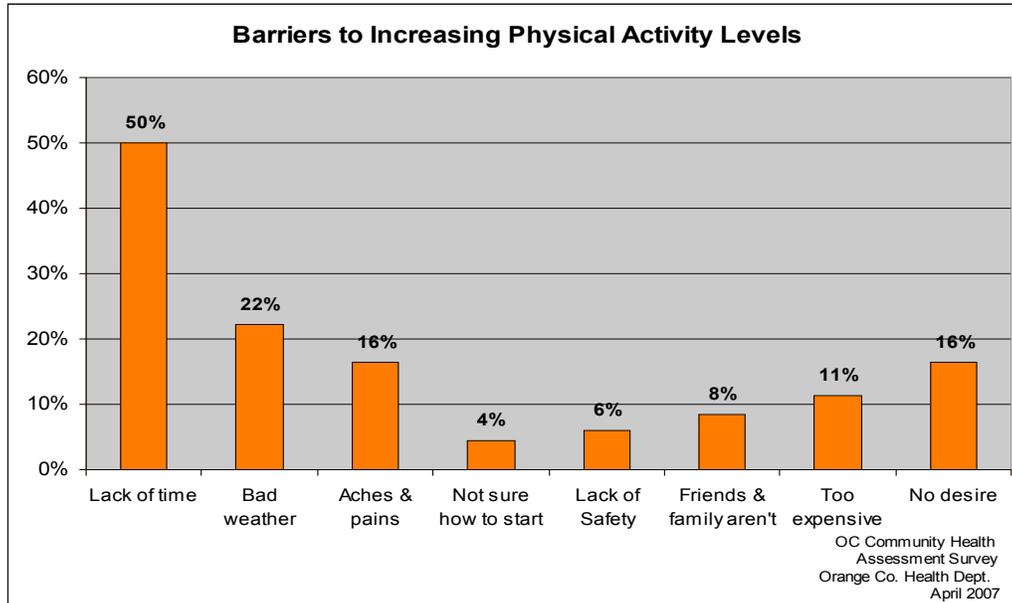


Figure 5-2, C-3: Responses to the survey question, “What keeps you from being more physically active? Tell me all that apply.”

Despite the challenges of time and other circumstances, 30% of those surveyed said they engaged in moderate exercise at least 30 minutes a day on five or more days of the week. Another 31% stated that they exercised moderately on three days out of the week, while 16% said they do not get any moderate level exercise. It is encouraging that many residents make an effort to be physically active, but there is plenty of opportunity to increase the level of physical activity among community members.

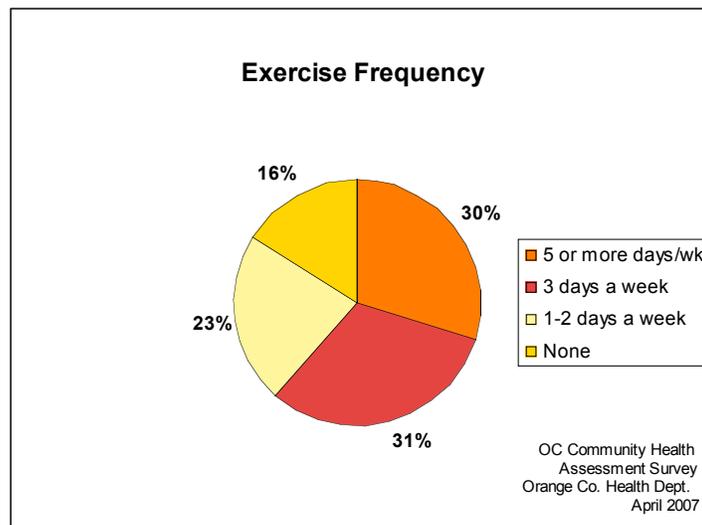


Figure 5-2, C-4: Responses to the survey question, “How many days a week do you do moderate exercise, like walking that makes you break a sweat, for at least 30 minutes?”

In the past, as part of the Orange County Community Health Assessments, residents have participated in discussions about various health topics, including physical activity. Those concerns are still relevant today, if not more so. Many residents have expressed concern about the lack of physical activity, especially among children. Increased “screen time”, fear of playing outside or playing in the heat and a lack of classroom education about the

importance of nutrition and physical fitness all contribute to a lack of physical activity among children. Although the parks and recreation departments consistently offer a variety of programs, parents have commented that slots fill quickly so that only those children whose parents are very organized are able to participate. Outreach through school support staff (i.e. social workers and guidance counselors) has been suggested as a way for the parks and recreation departments to begin to remedy the disparities in access to recreational programs that disadvantaged children face. Transportation is another challenge. Some kids are not able to secure a way home from organized activities, and therefore are not able to participate. Although the 2007 survey did not specifically address the level of physical activity among children, there was a question about health concerns. Overweight and obesity was the third most frequently mentioned health issue of concern. Increasing physical activity is one way to address this serious health problem. Increasing physical activity among all Orange County residents and among children in particular, should be one of the community's top priorities.

Resources

Two new policies have targeted physical activity and healthy eating in the schools. The NC State Board of Education passed a policy in April of 2005 requiring schools to provide 30 minutes of physical activity for all children in Kindergarten thru Eighth Grade each school day. Additionally, a new federal mandate requires all schools to develop and adopt Wellness policies by July 2007. Both school systems also adopted new Wellness Policies that include nutrition guidelines for all foods served in school and goals for physical activity.

To increase physical activity for students during the school day, the Chapel Hill-Carrboro City Schools have begun several new programs. The schools partnered with Be Active NC and NC Health and Wellness Trust Fund to provide Energizers to every school. The Energizers are being offered to all K-8 grade classes and currently teachers are being trained on how to implement the program. The schools are also promoting health eating and physical activity through the District program called *Eating Smart and Moving More is as Easy as 5-4-3-2-1 Go!*. All middle school students participate in the Yearlong Healthful Living program, which consists of nine weeks of Health classes and 27 weeks of PE. In addition, all students in grades K-9 must take a physical fitness assessment as part of their PE requirement. The assessment tests five skills and calculates Body Mass Index. Beginning with the 2006-2007 school year, fitness reports were sent to all students and parents at the end of the 1st and 4th grading periods. The Orange County School System also implemented the required 30-minutes of daily physical activity in all seven elementary and three middle schools. The school uses the classroom-based Energizers and other classroom activities to reach the 30 minutes requirement.

Orange County also offers many recreation opportunities outside of the schools. The County boasts three separate Parks and Recreation Departments offering numerous sports leagues, classes and facilities open to the public. There are also 23 public parks and many miles of walking trails available, including nine greenways in the Chapel Hill-Carrboro area, the Botanical Gardens and in the rural sections of the County, four public tracts of Duke Forest, the Little River Recreation and Natural Area, and the Johnston Mill Nature preserve. There are four parks along rivers, and three include lakes with public access for boating and fishing. Parks and recreation staff from throughout the county report that seniors and children are the most likely people to use formal recreational activities through their programs. There are several parks on the horizon as well as a fourth public swimming pool.

Orange County is actively promoting walking and biking, as well as the use of hiking trails, through the expansion of parks, increasing sidewalks and bike lanes, and free bus usage in Chapel Hill and Carrboro. The Orange County Government and the Healthy Carolinians partnership created a comprehensive recreation map, which serves as a guide for all the public recreation areas in Orange County. The map is available at all Parks and Recreation Centers, the public libraries, Chamber of Commerce and the Health Department.

In 2003, the Town of Chapel Hill initiated the Go! Chapel Hill project to make Chapel Hill more walkable. Since 2003, the Go! Chapel Hill project has implemented a Safe Routes to School program, including walking school buses, at four schools; established a walking route with directional signs in the Northside neighborhood; conducted walkability assessments of three neighborhood and has incorporated recommendations for improvements into Town's Master Pedestrian Plan; and created a downtown Chapel Hill mural walk and map.

The Walkable Hillsborough Coalition, a grassroots community group of concerned citizens, is working to improve "walkability" in the Hillsborough area. Through the efforts of this group and the Town's Recreation and Parks Advisory Board, a \$500,000 state grant has been awarded toward the Town's proposed "Riverwalk" – a 1.5 mile walkway connecting town and county open space and the downtown area with residential areas.

Orange County has four senior centers located throughout the County. Each center offers a variety of programs including classes, wellness programs, resources and lunches available to seniors.

Gaps and Unmet Needs

Although there are many opportunities for league sports and classes, they fill rapidly and there is still a need for more fields and team opportunities. Parents and providers have voiced the need for additional information on available recreational opportunities for children to help close the gap between those children who seem to participate in a variety of recreational activities and those who are not able to participate in any. Currently, information and registration forms for programs are circulated in the newspaper, distributed in the schools, are included in each Park and Recreation Department's website and promoted through press releases and public service announcements. Addressing issues of affordability, language of instruction, and transportation may help reduce the gap between our plentiful resources and the community's sense that many are still going without adequate recreational opportunities. It is also important to note that each Recreation and Parks Department offer financial aid or scholarship opportunities, to assist families who are unable to pay the fees.

Seniors and providers for seniors report concerns about their isolation in all facets of their lives; recreational opportunities are not excluded. Seniors in the Northern part of the county feel that it is difficult for them to get to recreational spaces. Increasing recreational opportunities goes hand-in-hand with increasing other opportunities for seniors to socialize and reduce their isolation; an important part of improving the quality of life for the growing senior population throughout the county. Finally, while opportunities for patrons with physical disabilities are available, they are not widespread enough to account for the various interests and needs of that population.

Emerging Issues

With obesity becoming an increasing threat to health, physical activity must become a priority and facilities must be made available to all sectors of the public for use. In a community

where resources are plentiful, they must be made accessible to those most at risk for poor physical health. Growth in the senior population requires attention to special programs that meet the needs of an aging population. Increased numbers in the Hispanic community may require additional materials, programs and staff that speak Spanish.

In addition to the facilities and programs needed, it is also important to work with schools and communities to continue to improve the environment and policies to make it easier and more convenient for residents to be active. Creating greater social equity by reducing environmental barriers is key to reducing health disparities due to inadequate physical activity and poor nutrition. Social equity is defined as “the expansion of opportunities for betterment that are available to those communities in most need of them, creating more choices for those who have few.”²⁶³

It is also imperative to work with individuals and families to increase the knowledge and skills needed to change their physical activity patterns.

²⁶³ American Planning Association. Planning and Community equity, 1994: vii

CHAPTER 6: COMMUNICABLE DISEASE

Communicable diseases are illnesses that spread to humans from:

- other humans
- animals
- insects
- the environment

Communicable disease control is necessary to the health of the community. This chapter will include information on activities that occur once these diseases are recognized in addition to the prevention measures that are utilized to prevent the occurrence and spread of illness.

This chapter contains the following sections:

- A) Vaccine-preventable Diseases**
- B) Infectious Diseases (not sexually transmitted)**
- C) Infectious Diseases (sexually transmitted)**
- D) Outbreaks**
- E) Animal-related Diseases**

A) Vaccine-preventable Diseases

Vaccine-preventable diseases are diseases that can usually be prevented by obtaining required or recommended vaccinations prior to exposure to the illness. For more than 50 years, there have been vaccines routinely required or recommended to prevent a number of childhood illnesses.

Healthy Carolinians Objective related to vaccine-preventable diseases and immunizations in children are:

Increase the proportion of young children who receive all vaccines that have been recommended for universal administration to 95% of children ages 19 through 35 months

In Orange County, 39% of children ages 12 to 23 months of age and 42% of children ages 24 to 35 months are confirmed to be up-to-date on vaccinations according to North Carolina Immunization Registry (NCIR) data as of May 2007.²⁶⁴

** The number of children with complete immunization records in the NCIR is not at the desired level, more children are fully vaccinated than the numbers reflect. Once all providers are using the registry, more immunizations will be entered and more accurate statistics on the vaccination status of children will be available.*

Maintain vaccination at 98% coverage levels for children in licensed day care facilities

In Orange County, 72.8% of children in licensed day care facilities are *documented* to be fully vaccinated.²⁶⁵

** This number is likely lower than the actual number of fully vaccinated children. Parents often fail to update day care records when their child gets vaccinated, thus leaving the day care center with an incomplete record on a fully vaccinated child.*

Maintain vaccination at 99% coverage levels for children in Kindergarten thru First Grade

In Orange County, 99% of Kindergarten thru First Grade children are fully vaccinated.²⁶⁶

Healthy Carolinians Objectives related to immunization in older adults are:

Increase the proportion of adults 65 years of age and older who are vaccinated annually against influenza to 75%

62% of the influenza vaccines given by the Orange County Health Department in 2006 were given to persons 65 years of age and older

However, in 2005 in Orange County, only 42% of Medicare Beneficiaries (age 65+) were immunized against influenza.²⁶⁷

Increase the proportion of adults 65 years of age and older who have ever been vaccinated against pneumococcal disease to 75%

In 2005 in Orange County, Medicare paid for 5000 persons over 65 to receive pneumococcal vaccine.²⁶⁸ Because pneumococcal vaccine is usually only given once after age 65, data on the total number of persons over 65 who have been vaccinated with pneumococcal vaccine is not available.

²⁶⁴ North Carolina Immunization Registry

²⁶⁵ North Carolina Immunization Branch Data Collection and Analysis Unit

²⁶⁶ Annual Report on Immunization Status of Kindergarten-First Graders from each school system

²⁶⁷ Medical Review of North Carolina

²⁶⁸ Ibid

Impact

Children who have not been appropriately vaccinated are at risk of serious diseases that are still present in the population. Vaccines required by North Carolina Immunization Law for day care and school entry provide protection against 10 diseases. These are diphtheria, tetanus, pertussis (whooping cough), polio, measles, mumps, rubella, haemophilus influenza type B (Hib), hepatitis B and varicella (chicken pox). The requirement for vaccination against chickenpox only applies to children born on or after April 1, 2001.

Among older adults, flu and pneumonia are the leading vaccine preventable diseases.

Contributing Factors

In children, a lack of parental education about the need for vaccinations and a lack of assessments on the coverage of vaccinations among the population can lead to low levels of immunization.

Adults age 65+ are at greater risk of pneumonia and influenza than the rest of the population, as are those with chronic lung disease, heart disease and compromised immune systems. Health care workers and residents of nursing homes and long-term care facilities are also at greater risk. New immigrants are also at risk of vaccine-preventable disease if they have not received vaccinations in their home countries.

Data

Orange County has met the Healthy Carolinians Objective for a 99% vaccination rate of all Kindergarten thru first graders. However, Orange County has not yet met the other Healthy Carolinian objectives for vaccination. The available data indicates that only 72.8% of children in day cares have been vaccinated, and only 39 to 42% of younger children have been documented as being vaccinated in the NCIR. This number is likely higher, but currently not all providers are using the NCIR to document vaccinations.

The numbers of new cases of vaccine preventable diseases among Orange County residents for the last four years are summarized in Table 6, A-1.

Disease	2003	2004	2005	2006	4 yr total	Additional Info
Diphtheria	-	-	-	-	0	
Tetanus	-	-	-	-	0	
Pertussis	3	1	4	5 (3 were siblings)	13	Protection against pertussis from vaccine wanes over time
Polio	-	-	-	-	0	
Measles	-	-	-	-	0	
Mumps	-	-	-	3	3	
Rubella	-	-	-	-	0	
Hib (Haemophilus influenza type B)	-	-	-	-	0	
Hepatitis B (acute)	2	3	1	1	7	None were within age group for which Hep B vaccination is required

Table 6, A-1: Number of Vaccine Preventable Disease Cases Among Orange County Residents, 2003-2006²⁶⁹

²⁶⁹ OCHD Communicable Disease Logs

Pertussis vaccine has been given routinely to young children for at least 50 years. With the last dose being given no later than age six, immunity weakens as time passes. Cases of pertussis have occurred repeatedly in adolescents and young adults due to this weakened immunity. These adolescents and young adults then pass the infection on to unprotected infants, in whom pertussis can be deadly. Only within the last three years has there been a vaccine available to persons seven years of age and older that will provide protection against pertussis. As more persons receive the new vaccine, pertussis cases should decline.

Several cases of meningococcal disease have occurred in Orange County during the last few years, mostly among UNC students. Because of the severity of the disease and the ease of transmission in close living quarters and casual attitudes about eating and drinking after each other often found in college students, meningococcal vaccine is now a requirement for entry into many colleges. The numbers of adolescents and young adults vaccinated against meningococcal disease has increased dramatically. The UNC system does not require the vaccine for entry but does strongly recommend it.

In 2005, only 30.6% of residents had reported that they had received a flu shot in the past 12 months.²⁷⁰ Of the vaccine preventable diseases in older adults, flu and pneumonia are the most common. Data on flu vaccination in adults 65+ over the last four years are listed in Table 6, A-2.

Year	Percentage of flu vaccinations given to ages 65 and older
2003	38%
2004	44%
2005	48%
2006	62%

Table 6, A-2: Percent of Flu Vaccinations Given to Older Adults, 2003-2006²⁷¹

Since neither influenza (flu) nor pneumonia are reportable illnesses, the exact number cases is unknown. However, the number of deaths annually from flu and pneumonia is available. Table 6, A-3 lists data on deaths in Orange County from flu and pneumonia.

Year	Total Deaths from Flu or Pneumonia	Deaths ages 65 and up from Flu or Pneumonia	% of deaths that were among individuals ages 65 and up
2002	23	21	91.3
2003	24	20	83.3
2004	19	18	94.7
2005	20	13	65

Table 6, A-3: Deaths Due to Flu and Pneumonia, 2002-2005²⁷²

There are many strains of influenza and pneumonia that cause disease. While protection against some strains is provided by vaccine, often cases are caused by strains not covered in the current vaccines.

²⁷⁰ NC DHHS State Center for Health Statistics, 2005 Immunization

²⁷¹ Orange County Health Department, Mainframe report number 5.10

²⁷² North Carolina Center for Health Statistics

Disparities

Children who live in under-served areas or who are from immigrant populations are less likely to have their vaccinations up to date. African American and Latino adults are less likely to receive vaccinations against flu and pneumonia than members of the majority population.

In Orange County in 2005, a larger percentage of women died from the flu and pneumonia than men, 3.3% and 2.2% respectively.²⁷³

Community Survey Results²⁷⁴

Most Orange County residents were not concerned about vaccine-preventable disease. When asked about their top health concern, in the 2007 Community Health Survey, only 9% of respondents cite “communicable disease,” as a concern. See Figure 6, A-1 for a break down of the top health concern among County residents. Residents were not directly asked about immunization or vaccine-preventable diseases.

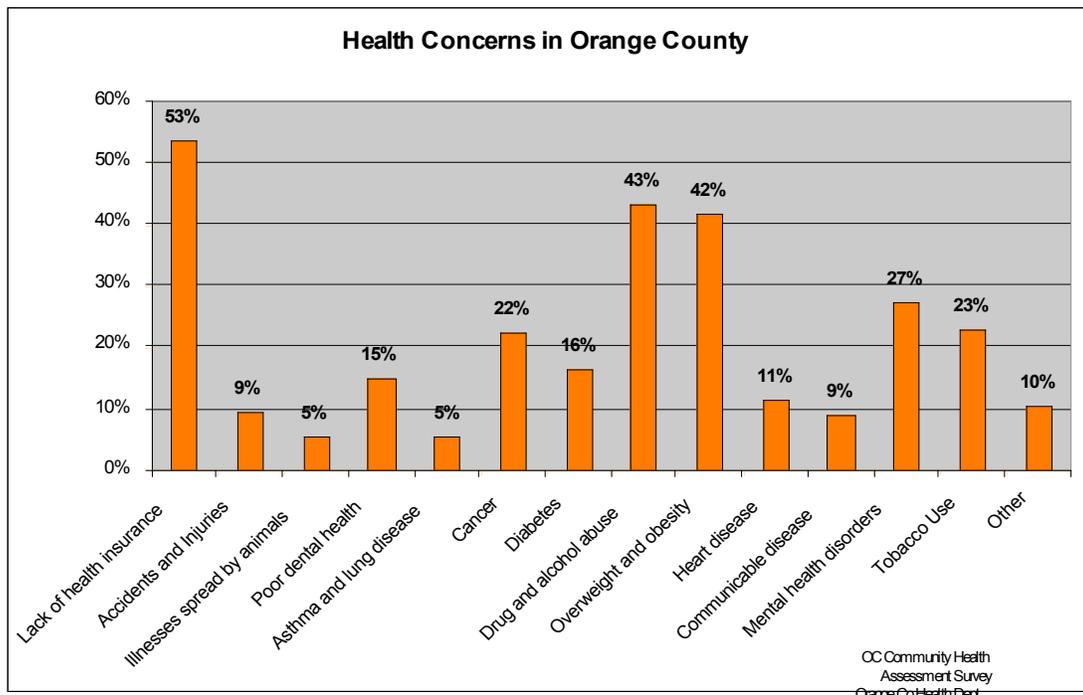


Figure 6, A-1: Responses to the survey question, “Which of these things stand out for you as important health issues in Orange County? Choose three.”

While the 2007 survey data does not indicate that communicable diseases or immunizations are a major concern among County residents, it is important to note that in the 2003 survey, many new residents and the health care providers that serve them, were concerned that residents who have recently arrived in the County, from other counties, states, or other nations, do not know how or where to get immunizations, or what the procedures is for getting immunizations in terms of time and money. New residents have found it difficult to determine whether the Health Department offers various vaccines, what the charges are, and whether they should make an appointment or just walk in to the clinic. Recent immigrants

²⁷³ NC DHHS State Center for Health Statistics, 2005 Leading Causes of Death for Orange County

²⁷⁴ Orange County Community Health Assessment conducted by the Orange County Health Department, April, 2007. See appendix for survey content.

from other countries were mostly worried about vaccinating their children in time for school; this raises some concern that adults may not be being sufficiently targeted, since many jobs do not require immunization records. It can be assumed that this will continue to be a concern as more new people move into Orange County, especially those from other countries.

Resources

The public health system is working diligently to increase the number of persons who have received flu and pneumonia vaccinations. The Orange County Health Department provides influenza vaccinations by offering flu clinics through out the county at various community settings including churches and the Health Department. Additionally, in an effort to facilitate the receipt of influenza vaccination for senior citizens, for whom the risk of complications from influenza illness is greatest, several clinics are held in the Orange County Senior Centers each year. Private physicians and other clinics also provide the vaccinations each autumn in an effort to immunize as many residents as possible, especially those at high-risk against these illnesses.

Efforts are also being made to track immunization status more carefully. For the last few years, there has been a statewide effort to develop a computer system (North Carolina Immunization Registry or NCIR) into which all immunizations given by any medical provider are entered. This data would be accessible to all medical providers helping to ensure that children and adults are adequately immunized. The system is now utilized in all North Carolina health departments and many private provider offices. Other private providers are gradually being added. As more providers begin to participate with the system, more accurate information will be available on the immunization status of children.

Gaps and Unmet Needs

Continued education and outreach to residents, particularly residents who move to this area from countries with less well-developed health infrastructures who often are not equipped with information about the availability and importance of immunization in this community. As our population continues to diversify, we will need to investigate more creative ways of providing information and referral sources to new residents.

It is also important to get more physicians and clinics to use the NCIR in order to more accurately track immunization status of children over time and ensure that all children are up-to-date on their vaccinations.

Emerging Issues

With new flu-like illnesses emerging such as SARS, it is vital that people understand the importance of receiving vaccinations against influenza and pneumonia.

The availability of some vaccines, particularly flu vaccines, have been variable over the years due to difficulties in production and distribution. This leads to populations being inconsistent in their vaccination status.

As Orange County continues to grow and diversify, it will be important to educate and provide assistance to new residents about how and where to access immunizations.

B) Infectious Diseases (Not Sexually Transmitted)

Healthy Carolinians Objectives related to infectious disease (not sexually transmitted) are:

There are no Healthy Carolinian objectives related to non-sexually transmitted infectious diseases.

Objectives have been created by the Orange County Health Department. They are:

- 1. To prevent the occurrence and transmission of tuberculosis (TB) infections in the community.**
- 2. To prevent the spread of other communicable diseases.**

Impact

Communicable diseases impact morbidity of residents throughout Orange County and in some cases may lead to death. Additionally, the effects of time lost from work or school can impact an individual's health and well-being. More broad public health and community-wide concerns include the expense and impact of large-scale outbreaks.

Contributing Factors

The influx of foreign-born individuals from TB endemic countries has contributed to the rise in cases of TB disease in NC.

Lack of appropriate hand washing and food preparation techniques may contribute to food-borne illnesses both at home and in public eating establishments. A number of school-based providers, parents, and teens noted that they observe a lack of education around hand washing and good sanitary health in the schools. They hoped that an increase in preventive education and an awareness campaign amongst students could help prevent the spread of common illnesses amongst school-aged children.

Substance abuse including use of non-sterile needles for drug injection and unsafe sexual practices may contribute to the spread of Hepatitis B.

Data

Tuberculosis (TB)

Overall, Orange County has a low rate of TB disease. Data from recent years is listed in Table 6, B-1.

Year	Number of Active TB Cases Diagnosed/Contacts Investigated
2003	5/227
2004	1/28
2005	0
2006	2/0 (neither case infectious)

Table 6, B-1: Number of Active TB Cases and Contacts Investigated, 2003-2006²⁷⁵

Other Communicable Diseases (excluding vaccine-preventable diseases, TB and STDs)

A variety of other communicable diseases are present in the community at any given time. All suspected or confirmed cases reported are investigated and followed up. Sometimes this follow up impacts only the affected individual but sometimes large groups of people are involved. Orange County groups among whom cases have been reported, investigated and

²⁷⁵ Orange County Health Department TB logs

followed in recent years include UNC students, students in a specific class in a school, fraternity or sorority members, employees of particular businesses, patrons of an affected restaurant and church groups. The magnitude of the investigation depends on the illness involved and on the number of people exposed. Though reporting certain conditions is mandated by law, many conditions remain unreported each year.

In 2006, Orange County had 21 incidences of Hepatitis B; this was an increase from past years. Orange County also saw an increase in Salmonellosis incidences, for a total of 40 in 2006. Over the past several years, the incidences of Rocky Mountain Spotted Fever have also steadily increased from two cases in 2003 to 32 cases in 2006. Data on all reportable communicable diseases (excluding vaccine-preventable diseases, TB and STDs) are listed in Table 6, B-2.

Disease/condition	2003 Cases/ contacts	2004 Cases/ contacts	2005 Cases/ contacts	2006 Cases/ contacts
Hepatitis B Carriers	10/2	14/9	8/3	21/10
Salmonellosis	11	19/10	16/22	40/36
Campylobacter	11/2	23/7	19/6	15/29
Hepatitis A	2/21	2/2	5/48	2/6
Bacterial Meningitis	2/3	1*	6/130	1/15
Lyme Disease	3	4	4	2
Typhoid	1	-	-	-
Rocky Mountain Spotted Fever	2	13	31	32
Invasive Streptococcal A Infection	5	2	3	-
Cryptosporidiosis	2	-	-	3/2
SARS	1/14	-	-	-
Vancomycin Resistant Enterococci	5	7	2	-
Ehrlichiosis	1	8	2	6
Shiga-toxin Producing E-coli	2	12/3	2/2	12/18**
Shigellosis	4	3	1	1/3
LaCrosse Encephalitis	-	-	-	-
Vibrio Infections	-	-	-	-
Acute Hepatitis C	-	1	-	1
Listeriosis	-	1	-	-
Legionellosis	-	-	-	1

Table 6, B-2: Reported Communicable Diseases in Orange County, 2003-2006²⁷⁶

*UNC student -multiple close contacts and many fraternity and dorm residents prophylaxed

**Many were from common source exposure

Disparities

Persons coming to the United States from countries of high TB incidence and persons who are immunocompromised are more susceptible to developing TB disease than persons with healthy immune systems or who come from an area of low TB incidence.

²⁷⁶ Orange County Health Department communicable disease logs

Community Survey Results²⁷⁷

As mentioned in the previous section, only 9% of respondents of the 2007 Community Health Survey cited communicable disease as one of their top health concerns. No other data was collected regarding communicable disease. See Figure 6, A-1 in the vaccine-preventable diseases section above.

Resources

Persons with active TB disease are required, by law, to be reported to the local Health Department. The Health Department is responsible for assuring that the person is appropriately treated, that contacts are evaluated and to try to determine the source of the infection. The Health Department provides medication to treat TB disease at no charge. The Health Department also treats, at no charge, persons infected with TB who have not developed active disease. This treatment is a preventative effort to reduce the likelihood of their infection ever resulting in disease.

The NC TB Control Branch of the NC State Health Department provides local health departments with guidance, training and resources (medication, etc.) for the treatment and control of tuberculosis. The NC Communicable Disease Branch of the NC State Health Department also provides resources and guidance to local health departments for investigation and control of communicable diseases.

Gaps and Unmet Needs

A real-time surveillance system to monitor disease patterns would improve tracking of communicable disease. Better reporting of communicable disease by private physicians would also help to track disease.

The cost of Hepatitis A vaccine makes it difficult for some food handlers to afford. Increased availability might result in fewer cases of Hepatitis A transmitted to the public.

As with immunizations, our county's newest residents are often the least knowledgeable about available information, prevention, and intervention services. Yet, some service providers worry that those who move or travel to and from the US may be the most likely to act as vectors for communicable diseases rarely seen in this country. (For example, many communicable diseases are more likely to be contracted in other countries, and many of our county's residents either visit or host visitors from those countries on a regular basis.) In order to continue to effectively manage the spread of infectious disease in the county, information and prevention services will need to be advertised and delivered in ways that are available to and well-received by those who have most recently moved to our county.

Emerging Issues

Educating and increasing awareness among residents, particularly new residents, about immunizations, prevention, and treatment services would be helpful.

²⁷⁷ These data are from the Orange County Community Health Assessment survey conducted by the Orange County Health Department, April, 2007. See appendix for survey content.

C) Infectious Disease (Sexually Transmitted)

Healthy Carolinians objectives for sexually transmitted infections are:

Reduce the rate of chlamydia infection in 15 to 24 year olds (developmental objective, no baseline determined yet)

In 2006, the rate of chlamydia in Orange County was 266.1 cases per 100,000.²⁷⁸

Reduce the rate of gonorrhea to 191 cases per 100,000 population

For the past eight years, Orange County has achieved this goal and in 2006 the rate of gonorrhea was 92.1 cases per 100,000.²⁷⁹

Reduce the number of new cases of primary and secondary syphilis to .25 cases per 100,000 population

In 2006 the rates of primary, secondary and early latent syphilis combined in Orange County was 4.2 per 100,000.²⁸⁰

Reduce the rate of HIV infection to 14.7 cases per 100,000 population

In 2006, the rate of HIV infection in Orange County was 19.4 per 100,000 in 2006.²⁸¹

Impact

According to Healthy Carolinians 2010, sexually transmitted infections (STI's) have a significant health and economic impact on the people of North Carolina especially the young. In NC, approximately 67% of gonorrhea and chlamydia cases occur in people ages 15 to 24. It is estimated that there are 1 million new cases of genital herpes every year in the US and that 45 million Americans are currently infected. In addition, there are 5.5 million new cases of Human Papilloma Virus each year and 20 million currently infected. Both of these viruses are untreatable and the result is that one out of every five American adults may be infected with genital herpes or Human Papilloma Virus.²⁸²

Women and infants disproportionately bear the long term consequences of STDs. Women infected with gonorrhea or chlamydia can develop pelvic inflammatory disease (PID) which, in turn, may lead to reproductive system morbidity. Gonorrhea and chlamydia can also result in adverse outcomes of pregnancy, including neonatal ophthalmia and neonatal pneumonia. Approximately 70% of chlamydia infections and 50% of gonococcal infections in women are asymptomatic. These infections are detected primarily through screening programs. When a woman has a syphilis infection during pregnancy, she may transmit the infection to the fetus in utero. This may result in fetal death or an infant born with physical and mental developmental disabilities. Most cases of congenital syphilis are easily preventable if women are screened and treated early during prenatal care. In the case of HIV, the disease may be passed to the baby of an infected mother if specific anti-viral medication is not taken during the pregnancy.²⁸³

²⁷⁸ NC 2006 HIV/STD Surveillance Report, DHHS, Epidemiology and Special Studies Unit, HIV/STD Prevention and Care Branch

²⁷⁹ Ibid

²⁸⁰ Ibid

²⁸¹ Ibid

²⁸² Ibid

²⁸³ Ibid

Contributing Factors

High-risk sexual behavior, sexual coercion, substance abuse, limited access to health care and poverty all contribute to the problem of STI's.

Data

While Orange County has a lower rate of STI's than many other counties in the state, it does remain a problem within our community. Orange County has met the Healthy Carolinians objective for Gonorrhea, yet rates of Chlamydia, Syphilis, and HIV/AIDS remain high in Orange County. Because STI's tend to be much more prevalent in the 15 to 24 year old population, the presence of the University and its large number of young adults may influence the prevalence of STI cases in Orange County.

Table 6, C-1 shows the total number of STI cases reported in the past five years in the county and demonstrates the fact we still have a serious number of STI's occurring each year.

Disease	Case/Rate	2002	2003	2004	2005	2006
Chlamydia	OC Cases	194	202	174	251	315
	OC Rate	165.7	172.3	148.5	212.0	266.1
	NC Rate	297.6	297.6	339.5	359.1	387.1
Gonorrhea	OC Cases	95	71	84	108	109
	OC Rate	81.1	60.6	71.7	91.2	92.1
	NC Rate	184.7	179.1	178.0	173.5	199.3
Syphilis	OC Cases	13	2	1	0	5
	OC Rate	11.1	1.7	0.9	0.0	4.2
	NC Rate	7.4	4.7	5.3	5.6	7.0
HIV & AIDS	OC Cases	12	16	16	16	23
	OC Rate	9.4	13.6	13.7	13.5	19.4
	NC Rate	20.2	24.2	18.8	21.3	23.3

Table 6, C-1: Total Number of Reportable STI Cases for Orange County 2002-2006 and Orange County Rates per 100,000 Compared with NC Rates²⁸⁴

Table 6, C-1 also illustrates that while our rates of chlamydia, gonorrhea, syphilis and HIV are lower than the state rate, the rates do fluctuate up and down over time. The rates of HIV disease reports for 2003 and 2006 were higher than the number of reports for other recent years. Much of the increase in HIV disease reports for 2003 was the result of previously unreported prevalent HIV disease cases that were identified through ongoing enhanced surveillance activities. The increase in 2006 HIV reports may be the result of these enhanced surveillance activities as well as a general increase in the number of new HIV diagnoses.²⁸⁵

As of December 31, 2006 the HIV/STD Prevention and Care Branch reported that 313 HIV cases and 133 AIDS cases had been reported in Orange County since reporting began in 1983. They further estimated there to be 207 persons living in Orange County with HIV or AIDS at that point in time.²⁸⁶ Compared with all 100 counties in the state, Orange County was ranked 36th based on the HIV infection rates, down from 48th in 2001.²⁸⁷

²⁸⁴ Ibid

²⁸⁵ Ibid

²⁸⁶ 2006 HIV/STD Surveillance Report, DHHS, Epidemiology and Special Studies Unit, HIV/STD Prevention and Care Branch

²⁸⁷ Ibid

Disparities

As mentioned earlier, adolescents bear the majority of the burden for chlamydia and gonorrhea infection. This may be due to the likelihood for more sexual risk taking and a larger number of sexual partners than people of older ages. In the case of chlamydia, 33% of all cases in 2005-2006 were in 13 to 19 year olds and another 41% of cases were found among 20 to 29 year olds. With gonorrhea, 17% of cases were in the 13 to 19 year old age group and 26% in 20 to 29 year olds.²⁸⁸

African-Americans (AA) suffer disproportionately from all STI's. In North Carolina, the number of AA males with HIV has remained relatively stable since 2002 at slightly over 40% of cases, in 2006 AA accounted for 45% of all HIV cases in males. AA females account for 21% of all HIV cases in females.²⁸⁹ HIV infection remains the highest among men who have sex with men, accounting for 34% of all cases.²⁹⁰

It is possible that reporting for STI infection is biased towards those who seek care from publicly funded STI clinics, as private providers who are required to report STI cases may not always comply. STI's are more common in disenfranchised populations and persons who participate in high-risk behaviors such as sex workers who exchange sex for money, drugs or other goods, adolescents, persons in detention and migrant workers. These same people often also have limited access to health services.

Community Survey Results²⁹¹

The 2007 Community Health Survey did not ask residents specifically about sexually transmitted infections. However, risky teen behavior was cited as the third most important social concern among residents, with 35% of respondents ranking it among their top 3 concerns. See Figure 6C below for a breakdown of the top social concerns among County residents. Behaviors that lead to sexually transmitted infections may be included in the "risky teen behavior" category along with other behaviors such as drug use and violence. Additional information on sexual behaviors of teens can be found in Chapter 9, Adolescent Health.

²⁸⁸ Ibid

²⁸⁹ Ibid

²⁹⁰ Ibid

²⁹¹ These data are from the Orange County Community Health Assessment survey conducted by the Orange County Health Department, April, 2007. See appendix for survey content.

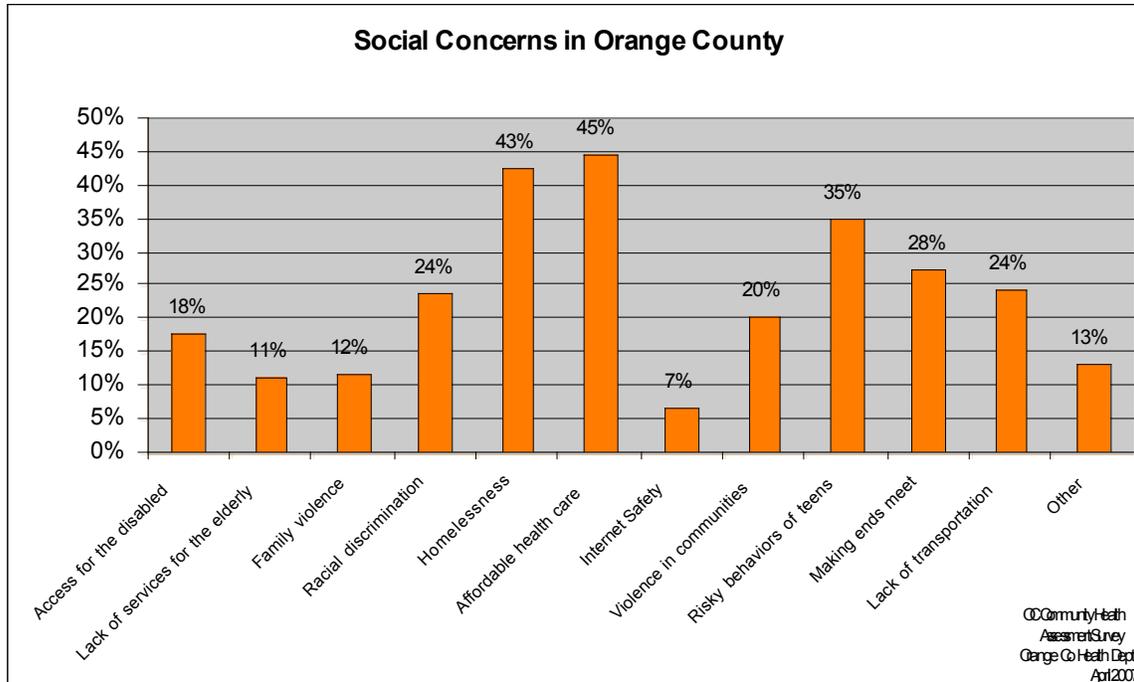


Figure 6, C-1: Responses to the survey question, “Which of these things stand out for you as important social issues in Orange County? Choose three.”

Resources

Free, confidential STI testing is available at both the Hillsborough and Chapel Hill locations of the Orange County Health Department. The Student Health Action Coalition clinic also provides free, confidential testing once a week at Carrboro Community Health Center. Low-cost and/or sliding fee scale, confidential STI testing is available at UNC Student Health Services, Planned Parenthood, and Piedmont Health Services. The Orange County Health Department also offers new rapid HIV testing, where residents can receive free, accurate results within 20 minutes. The rapid testing is done on an outreach basis at three nontraditional test sites in Chapel Hill and Hillsborough.

Planned Parenthood has a program called “Teen Talk” which trains teens in the county to educate their peers and provide health resource information on a variety of health topics including STI prevention. The Orange County Health Department also runs a project called “Project Courage,” an HIV prevention program that focuses on recruiting and training African Americans to become peer educators in order to help increase awareness and dialogue about HIV among other African Americans.

The Alliance of AIDS Services NC (ASANC) disperses federal and state funds to their clients living with HIV/AIDS in Orange County. ASANC also runs a residential program, provides information, counseling, and referral services for clients and their families, and connects clients to community resources such as food banks.

Gaps and Unmet Needs

There is a need to provide programs that educate adolescents and young adults about the risks of STI's and prevention strategies. They should be encouraged to abstain from sexual activity, or limit sexual partners and use condoms. Adolescents need to know that there is currently no cure for many of the viral infections that cause STI's such as genital herpes,

Human Papillomavirus, Hepatitis C and HIV and that acquiring these infections can have life long consequences.

Human Papillomavirus (HPV) infections are highly prevalent, especially among young sexually active women and are a major concern because they are causally related to cervical cancer and Pap smear abnormalities. The state needs to begin collecting data prevalence by county. Availability of the new vaccine Gardasil at a reasonable cost and educating the public about the benefits of the vaccine should be goals of all agencies providing medical services.

Low cost or free chlamydia screening needs to be available to men.

The disproportionate impact of HIV/STDs on minorities underscores the importance of implementing and sustaining effective prevention/education/outreach efforts for these populations.

Due to the stigma connected with STI, people may not seek testing and appropriate treatment. In addition, those infected with chlamydia are often asymptomatic and therefore not request testing. Private providers need to offer STI screening on a routine basis thereby reducing the number STI's going undiagnosed and untreated.

Emerging Issues

There is significant concern within the HIV prevention community that the lessons of the 90's which resulted in a decrease of new HIV infections among men who have sex with men may now be lost to the new generation. An increasing number of new infections are occurring among young men who have sex with men. In addition the situation with African-Americans as well as Hispanics is one that merits an extra effort towards prevention in these communities where homosexual activity has long been stigmatized and therefore honest conversations about HIV prevention have not occurred. Now that the infection rate is increasing dramatically among the heterosexual population, perhaps the conversation can begin.

While Hepatitis B is now being controlled with greater effectiveness through the use of vaccines, new strains of Hepatitis are appearing and are currently untreatable. Now that it has been discovered that HPV is a major cause of cervical cancer, new screening, and treatments may result in lower numbers of cases of cervical cancer in women infected with HPV. Furthermore, the recently availability of a vaccine against HPV should also result in lower numbers of HPV cases.

Confronting the growing STI problem requires health officials to establish an effective system for STI prevention that responds to the complex interaction between the biological and social factors that sustain STI transmission in populations.

D) Outbreaks

Healthy Carolinians objectives for outbreaks are:

There are no Healthy Carolinians objectives related to outbreaks.

Outbreak management involves recognizing the outbreak, identifying the illness, identifying the source and controlling further spread of illness. Outbreak management is one role of the local health department.

Data

Orange County has experienced several disease outbreaks in recent years. Most have been caused by norovirus, a highly infectious gastrointestinal virus that is easily transmitted from person-to-person. Outbreaks worked by the Orange County Health Department in recent years include those listed in Table 6D.

2004	2005	2006
2 norovirus outbreaks with 458 persons being ill	4 norovirus outbreaks with 108 persons being ill	2 confirmed norovirus outbreaks with 81 persons ill
5 cases of E.coli associated with a common source	10 sick from a suspected bad fish	1 Salmonellosis outbreak with 4 persons ill from a suspected common source
-	-	1 E.coli 0157:h7 outbreak with 9 ill
-	-	1 suspected norovirus outbreak with 11 ill

Table 6, D-1: Reported Outbreaks in Orange County, 2002-2006²⁹²

E) Animal-related Diseases

Healthy Carolinians objectives for animal disease threats to humans are:

There are no Healthy Carolinian objectives related to animal disease threats to humans.

As a diversely populated area with a mixture of rural and suburban communities, Orange County is impacted by a variety of animal-related health issues. In addition to the large variety of pets owned by Orange County citizens, Orange County is also home to a variety of farm animals. Orange County farmers own cows, horses, chickens, pigs, sheep, llama, goats, horses and others. Some animal-related health concerns are only a threat to other animals. Others pose a threat to humans as well. Some of the more common concerns with human impact are discussed below.

Impact

The main disease of concern in this area is wildlife rabies, mainly based in the raccoon population. Rabies is a disease, caused by a virus, which can infect all mammals, including humans. It is transmitted through contact with the saliva or nervous tissue of an infectious animal, almost always through a bite. If an exposed person is not treated soon after the exposure, the virus may infect the person, and thereby result in death. Rabies is always fatal to animals and people once signs of disease appear. However, treatment by a doctor soon after exposure, including a series of post-exposure rabies vaccinations, will prevent development of the disease.

Rabies was a major problem in North Carolina in the 1940s and 1950s. It was primarily in the dog and cat population, but was brought under control through a vigorous vaccination program of pets. Between then and the 1990s, there were only a handful of cases yearly in N.C. Since 1990, three distinct animal epidemics have invaded North Carolina's wildlife population and the number of documented rabid animals in the state has grown dramatically.

²⁹³

²⁹² Orange County Health Department communicable disease logs

²⁹³ North Carolina Manual for Rabies Prevention and Animal Bite Management, April, 2007, pages 3-5

Other animal-related diseases of concern in the county are arboviruses, including West Nile, Lacrosse and Eastern Equine Encephalitis (EEE), as well as existing diseases such as Rocky Mountain Spotted Fever, Lyme Disease, and Ehrlichiosis, which continue to concern many who spend time outdoors, and finally, leptospirosis, which also continues to be an issue for many people who work outdoors or with animals and for those who live or work in rodent-infested areas.

Contributing Factors

Lack of rabies immunization of domestic pet dogs and cats, along with the continued existence of large populations of unvaccinated stray dogs and feral cats, are the main threats of spread of disease. Secondly, the encroachment of human populations into areas of wild animal population has led to an increase in the frequency of encounters between human and wildlife, with some of this wildlife, mostly raccoons, but also fox and skunks, carrying rabies. However, any mammal can carry rabies and spread the disease to humans and domesticated animals. The best way to avoid rabies is to stay away from animals that appear sick or act oddly, and to avoid contact with strange animals and wildlife.

Standing water that leads to the development of mosquito populations is the main source of West Nile. People who are outdoors during the dawn and dusk hours are more likely to be bitten than at other times of day. Failure to protect exposed skin either through the use of DEET mosquito spray and/or long sleeve shirts and long pants increases one’s chance of exposure. Age (over 55) and a compromised immune system also increase the risk that exposure will lead to disease.

Poor zoning and environmental regulations and/or enforcement can lead to conditions conducive to rodent infestation and its accompanying risks including leptospirosis.

Failure to implement local and state regulations restricting the importation, sale and possession of exotic animals can also allow emerging and foreign zoonotic diseases to insinuate themselves into the local animal and human population.

Data

Raccoons have consistently accounted for the majority of confirmed rabies cases (74%).²⁹⁴ Numbers of confirmed rabies cases in Orange County and North Carolina for the last three years are listed in Table 6, E-1. As can be seen in Table 6, E-2, over two-thirds of the positive rabies cases in Orange County in the last three years (39 of the 51 total) involved raccoons.

	2004	2005	2006
Orange County	10	24	27
North Carolina	582	458	520

Table 6, E-1: Orange County and North Carolina Rabies Cases²⁹⁵

²⁹⁴ Orange County Animal Services Director

²⁹⁵ North Carolina Veterinary Public Health Branch website

Type of Animal	2004	2005	2006	Total
Bat	2	1	5	8
Beaver	-	1	-	1
Dog	-	1	-	1
Fox	2	3	1	6
Raccoon	4	18	17	39
Skunk	2	-	4	6
Total	10	24	27	51

Table 6, E-2: Rabies Cases in Orange County by Species, 2004-2006²⁹⁶

In the past decade, the number of animals testing positively for rabies in Orange County each year has ranged from 5-106. Rabies test over the past decade have totaled 272, with 27 cases occurring in 2006, up slightly from previous years.²⁹⁷

The numbers of rabies occurrences in humans over the last 4 years can be seen in Table 6, E-3.

	2003	2004	2005	2006
# possible human rabies exposures	5	38	250	390

Table 6, E-3: Number of Human Rabies Exposures, 2003-2006²⁹⁸

Twenty-three low cost rabies vaccination clinics were held in 2006, with a total of 1741 animals being vaccinated (1187 dogs and 554 cats).²⁹⁹ As of July 1, 2007, nine low-cost clinics have been offered, with 609 animals vaccinated thus far for the 2007 year.³⁰⁰ These clinics supplement the efforts of private veterinarians. Despite this, each year numerous dogs and cats must be quarantined or euthanized after an exposure to a potentially rabid animal because they did not have a current rabies vaccination at the time.

Post-exposure prophylaxis (PEP) for rabies is a significant expense. Rabies Immune Globulin (RIG) and Rabies Vaccine are necessary for PEP of unvaccinated persons. Since RIG dosage is based on weight, the cost of RIG will vary among clients. RIG is approximately \$600/10 ml vial. Rabies vaccine costs approximately \$150/dose. In addition to the costs of RIG and Rabies Vaccine, there are office visit charges or emergency department charges. Since few, if any, local physicians provide RIG, the client almost always has to visit an emergency department for the first visit. Many providers refer their patients to the emergency department for all visits.

Post-exposure prophylaxis in **non-vaccinated persons** involves the patient making 5 medical visits over a 28 day period of time. The visits occur according to the following schedule.

²⁹⁶ Ibid

²⁹⁷ Ibid

²⁹⁸ Orange County Health Department Rabies-related Concern Logs

²⁹⁹ Orange County Animal Services Bureau Director

³⁰⁰ Ibid

Visit Date	Rabies Immune Globulin	Rabies Vaccine	Estimated Expense
Day 0	Yes	Yes	Cost of RIG + cost of vaccine + cost of visit
Day 3	No	Yes	Cost of vaccine + cost of visit
Day 7	No	Yes	Cost of vaccine + cost of visit
Day 14	No	Yes	Cost of vaccine + cost of visit
Day 28	No	Yes	Cost of vaccine + cost of visit

Table 6, E-4: Post-exposure Prophylaxis Vaccination Schedule

Persons previously vaccinated against rabies only need to receive 2 doses of rabies vaccine, 3 days apart, if exposed.

Other Animal-Related Concerns

Shiga-toxin producing e.coli infection is spread from cattle to humans through fecal contamination and through the consumption of undercooked ground beef. Once infected, a human can transmit the infection to other humans. In young children particularly, shiga-toxin producing infection can lead to kidney failure and death. During the North Carolina State Fair in 2004, 108 cases of shiga-toxin producing e.coli infection occurred and were linked to a petting zoo at the Fair. Twelve of the 108 were from Orange County.³⁰¹ Although all recovered, several were hospitalized and some were left with permanent health conditions.

Feral Cats

Feral (or wild) cats are a major concern in Orange County. Colonies and emerging colonies of these cats are found in various parts of the county.

One concern is a humane one insofar as these cats live in the wild with no one to care for them daily or provide necessary veterinary care. They are also difficult, if not impossible, to adopt or re-home. In any given month, the overwhelming majority of cats that must be euthanized at Orange County's Animal Shelter are feral.³⁰²

Feral cats also create a community and human health concern and problem. Their colonies reproduce rapidly and at will, quickly growing in size to several score or more. Moreover, because they are at risk of contracting rabies and other diseases that could then spread to pets and humans, the ever-increasing number of feral cats presents a dangerous potential health risk to the county and its citizens.

Disparities

Traditionally there have been disparities in the relative rabies vaccination rate for dogs and cats among different communities within the county. It has been assumed, and to some extent observed, that these disparities relate to income and educational factors. There has been a consistent, long-term effort to address these disparities by holding frequent low-cost rabies vaccination clinics at locations convenient to the lower income pet-owning population.

³⁰¹ North Carolina General Communicable Disease Branch website

³⁰² Orange County Animal Services Bureau Director

It is also considered a reality that there are more (unvaccinated) stray and feral dogs and cats in poorer neighborhoods and rural areas than elsewhere. While this may still be true, Animal Control has attempted to avail its services to every social, cultural, educational and economic group and to every corner of the county by maintaining a high profile and by offering animal pickup services free of charge.

Community Survey Results³⁰³

In the 2007 Community Health Assessment, only 5% of residents cited illness spread by animals as one of their top 3 health concerns. No additional data was collected on residents concerns about animal-related illnesses. See Figure 6, A-1 in the vaccine-preventable diseases section above.

Resources

Dogs and cats are required by law to be routinely vaccinated against rabies. Low cost rabies vaccination clinics are conducted on a regular basis at varying locations around the county. These clinics are staffed by local veterinarians and Orange County Animal Services staff.

With each encounter where potential human contact to rabies has occurred, a Public Health Nurse contacts the citizen and provides counseling about the potential exposure risk and advises the citizen to consult a medical provider for guidance regarding whether or not to obtain post-exposure prophylaxis.

Gaps and Unmet Needs

Education and awareness of the facts about rabies can help people protect themselves, their families, and their pets from exposure. Schools and day care facilities should review policies on animal and student interaction for reducing risk for exposure to salmonella, e. coli, and other animal borne diseases.

Emerging Issues

State public health veterinarians now believe that we are on the upside of a raccoon rabies cycle. They are aware that its peak may bring even higher numbers of confirmed rabies cases than in recent years. This view is based upon the fact that last year 520 animals were confirmed rabid by North Carolina's rabies laboratory in 2006, an increase of 62 cases from the year before.³⁰⁴

Much attention has also been paid to cases of avian flu around the world in the last few years. This is a strain of flu that affects certain fowl including poultry. A primary concern is that it could lead to a new strain of the flu virus to which there would be world-wide susceptibility, and result in a flu pandemic with wide-spread illness and likely high mortality rates. Orange County has a number of chicken and/or egg farms. Should avian flu infect any of these flocks, all chickens in the flock may have to be killed which would have significant financial implications in addition to the accompanying health concerns.

³⁰³ These data are from the Orange County Community Health Assessment survey conducted by the Orange County Health Department, April, 2007. See appendix for survey content.

³⁰⁴ Orange County Health Department Rabies-related Concern Logs

CHAPTER 7: INJURY

This chapter covers injury-related health issues from unintentional injuries caused by motor vehicle crashes and other things like falls and accidents, to intentional injuries including sexual assault, child abuse, domestic violence, suicide and homicide.

Unintentional injuries are largely preventable yet, they remain a leading cause of death in Orange County. More awareness and education is needed to reduce the number of unintentional injuries that occur. The intentional injuries are of special concern because they are pervasive in the community, yet can also be prevented. The solution for intentional injuries are complex and require the involvement of the mental health system, law enforcement, social service agencies, health care professionals, faith community, and the community members in order to alleviate there types of injuries.

The chapter contains the following sections:

- A) Unintentional Injuries**
- B) Intimate Partner Violence**
- C) Sexual Assault**
- D) Child Abuse and Neglect**
- E) Homicide**
- F) Suicide**

A) Unintentional Injury

Healthy Carolinians Objectives related to unintentional injury are:

Reduce deaths caused by motor vehicle crashes to 15.8 deaths per 100,000 population

In Orange County, in 2004, there were 15 deaths caused by motor vehicle crashes.³⁰⁵ Between 2001 and 2005, there were 75 motor vehicle related deaths or 12.5 per 100,000 population.³⁰⁶

Reduce nonfatal injuries caused by motor vehicle crashes to 15.6 nonfatal injuries per 1000 population

In Orange County in 2004, there were 1,126 nonfatal injuries caused by motor vehicle crashes, with a three-year average from 2002 to 2004 of 10.14 per 1000 population.³⁰⁷

Reduce nonfatal alcohol-related motor vehicle crashes to 1.05 nonfatal alcohol-related crashes per 1000 population

In Orange County in 2004, there were 65 non fatal alcohol-related motor vehicle crashes, with a three-year average from 2002-2004 of 0.58 per 1,000 population.³⁰⁸

Reduce fatal alcohol-related motor vehicle crashes to 0.045 fatal alcohol-related crashes per 1000 population

In Orange County in 2004, there was 1 fatal alcohol-related motor vehicle crash, with a three-year average of 1.6 fatal crashes from 2002-2004.³⁰⁹

Increase use of safety belts to 92 percent

In 2002, 91.7% of Orange County adults reported always using a seatbelt.³¹⁰

Impact

Unintentional injuries are injuries caused from biking, walking, motor vehicles, poison, choking/suffocation, cut/pierce, bite/sting, fire arm, fire, and drowning. Unintentional injuries are a leading cause of death among Americans of all ages. In 2005, 4,084 people in the state of North Carolina died from unintentional injuries. Motor vehicle collisions (MVCs), a leading cause of injury-related death, caused 1,636 deaths in North Carolina in 2005. The statistics, however, are even more striking for the young: non-motor vehicle related unintentional injuries are the third leading cause of death for 1 to 4 year olds in the state and motor vehicle injuries are the leading cause of death for 15 to 24 year olds.³¹¹ Given that injury is a leading cause of death among young children, it has the potential to cause a greater number of years of life lost than many other prevalent causes of mortality. In Orange County, unintentional injuries have a larger impact than at the state level with two of the three leading causes of

³⁰⁵ NC Department of Transportation: North Carolina Traffic Crash Facts. Accessed August 30, 2007 at http://www.ncdot.org/dmv/other_services/recordsstatistics/1_2004Fact.pdf

³⁰⁶ NC State Center for Health Statistics. 2001-2005 Leading Causes of Death by County of residence. Accessed September 11, 2007 at

<http://www.schs.state.nc.us/SCHS/data/databook/CD13%20lead%20causes%20of%20death%20by%20age.rtf>.

³⁰⁷ NC Department of Transportation: North Carolina Traffic Crash Facts. Accessed August 30, 2007 at http://www.ncdot.org/dmv/other_services/recordsstatistics/1_2004Fact.pdf

³⁰⁸ Ibid

³⁰⁹ Ibid

³¹⁰ NC State Center for Health Statistics. 2006 BRFSS Survey. Accessed on August 30, 2007 at <http://www.schs.state.nc.us/SCHS/brfss/2006/oran/seatbelt.html>

³¹¹ North Carolina State Center for Health Statistics, Leading Causes of Death in North Carolina 2005. Accessed on August 30, 2007 at <http://www.schs.state.nc.us/SCHS/data/lcd/lcd.cfm>.

death among individuals age 14 to 44 being motor vehicle related injuries and other unintentional injuries.³¹²

Death due to injury reflects only part of a larger problem. There is also significant morbidity caused by unintentional injuries. For children and adults under age 34, motor vehicle crashes are a leading cause of nonfatal injury.³¹³ The physical and emotional effects of injury can be extensive and wide-ranging, and in some cases, such as spinal cord injury and traumatic brain injury, the injury can cause a life-long disability.³¹⁴

Contributing Factors

Many highway fatalities and other injuries are related to alcohol and other drug use. Over the past five years, in Orange County, 25% of deaths caused by motor vehicle crashes were alcohol-related. Other contributing factors include age and driving experience. Drivers who are younger and less experienced have higher crash rates. According to the CDC, "inexperience increases the crash risk for new drivers of all ages. However, younger novice drivers crash at higher rates than older novice drivers. These higher crash rates may be due in part to developmental factors such as peer influence, poor perception of risk, and high emotionality."³¹⁵ Motor vehicle injuries and deaths among children can be contributed to driving with someone who had been drinking, unrestrained children or child restraint systems that are not used correctly.

Factors that contribute to falls, especially among older adults, include poor eyesight, medications, obstacles in the home, poor lighting, and limited mobility. Unintentional injuries from fire can also be contributed to alcohol as well as fire alarms that do not work.

Fortunately, most of these unintentional injuries can be prevented. Many policy interventions have been instituted to help prevent motor vehicle related injuries and deaths. For example, laws regarding seat belt and child safety seat use, graduated drivers licensing, and maximum blood alcohol levels, are in place. Additionally, auto makers have made changes to vehicle features to make them safer, and changes have been made to highway design to enhance auto safety. Advances in these fields have contributed to a decline in motor vehicle related deaths over the last 30 years.³¹⁶

Data

Orange County has met or exceeded all the Healthy Carolinians objectives related to unintentional injuries. In Orange County from 2002 to 2004, 40 deaths were caused by motor vehicle crashes, with a three-year average of 10.14 per 1,000 population.³¹⁷ There were 1,126 non-fatal injuries caused by motor vehicle collisions in 2004. There were 214 alcohol-related motor vehicle crashes, with a three-year average from 2002 to 2004 of 0.58 per 1,000 population.³¹⁸ From 2002 to 2004, 5.3% of motor vehicle crashes were alcohol related,

³¹² Ibid

³¹³ North Carolina State Center for Health Statistics, Leading Causes of Death in North Carolina 2005. Accessed on August 30, 2007 at <http://www.schs.state.nc.us/SCHS/data/lcd/lcd.cfm>.

³¹⁴ Healthy Carolinians 2010. Motor Vehicle Injury. Accessed on August 30, 2007 at <http://www.healthycarolinians.org/2010objs/motorveh.htm>.

³¹⁵ Ibid

³¹⁶ Ibid

³¹⁷ NC Department of Transportation: North Carolina Traffic Crash Facts. Accessed August 30, 2007 at http://www.ncdot.org/dmv/other_services/recordsstatistics/1_2004Fact.pdf

³¹⁸ Ibid

including 26.5% of all fatal crashes and 7.9% of non-fatal crashes.³¹⁹ In Orange County, there were 18 deaths due to “other” unintentional injuries.³²⁰

	Motor Vehicle Injuries			Other Unintentional Injuries		
	Number	% of deaths	Rank	Number	% of deaths	Rank
NC Total	1636	2.2	9	2,448	3.3	5
Orange Co. Total	15	2.1	10	18	2.5	7
Race						
White	13	2.3	9	17	3.0	5
Minorities	--	--	Not a leading cause of death	--	--	Not a leading cause of death
Sex						
Male	12	3.2	5	12	3.2	5
Female	--	--	Not a leading cause of death	6	1.7	9

Table 7, A-1: Leading Causes of Death, Orange County, 2005³²¹

The 2006 BRFSS asked Orange County residents about health behaviors that could affect injury-related morbidity and mortality. When asked about driving after consuming alcohol, 0.5% of respondents reported driving at least once, and 6% reported driving only once, in the last 30 days when they had had too much to drink, as compared to the 1.1% and 2.3% at the state level. A large majority of Orange County residents surveyed (91.7%) reported always wearing a seatbelt when they drove a car, a rate above the state average (86.7%).³²²

Youth who completed the Chapel Hill-Carrboro City School (CHCCS) Youth Risk Behavior Survey (YRBS) in 2007 reported the information shown in Table 7, A-2 below related to seat belt and bike helmet use.

Question	CHCCS	
	MS	HS
How often do you wear a seatbelt?		
Always wore a seatbelt	60.1%	65%
Most times wore a seatbelt	24.2%	22%
Rode a bike in the past 12 months?	84.9%	61.4%
Always wore a helmet	28.7%	18.1%
Most times wore a helmet	18%	10.6%
Rarely or never wore a helmet	18%	8.7%

Table 7, A-2: Chapel Hill-Carrboro City Schools Youth Risk Behavior Survey Responses to Questions about Seatbelt and Bike Helmet Use³²³

³¹⁹ Ibid

³²⁰ NC State Center for Health Statistics. Mortality Statistics Summary for 2005, North Carolina Residents, Unintentional Injuries. Accessed on September 13, 2007 at <http://www.schs.state.nc.us/SCHS/deaths/lcd/2005/homicide.html>.

³²¹ North Carolina State Center for Health Statistics. Leading causes of Death NC. Accessed September 11, 2007 at: <http://www.schs.state.nc.us/SCHS/data/lcd/lcd.cfm>.

³²² NC State Center for Health Statistics. 2006 BRFSS Survey. Accessed on August 30, 2007 at <http://www.schs.state.nc.us/SCHS/brfss/2006/oran/seatbelt.html>

³²³ 2007 Youth Risk Behavior Survey, Chapel Hill-Carrboro City Schools.

The same survey (YRBS) also asked youth about riding with drivers who had been drinking. Approximately 19% of CHCCS middle school students said they had ridden with a driver that had been drinking. This is down from 23% in 2001. High school students were asked how many times they had ridden with a driver that had been drinking in the past 30 days. Almost 25% of CHCCS students said they had ridden in a car with a drinking driver one or more times in the past 30 days, up from 20% in 2001. When asked if they themselves had driven after drinking one or more times in the past 30 days, 12.3% of CHCCS students answered “yes”.³²⁴

According to the 2006-2007 End-of-Year reports, Chapel Hill-Carrboro City Schools had a total of 16,002 unintentional injury incidences that required some sort of first aid, and Orange County Schools had 3,253 incidences. No incidents resulted in death or permanent disability.³²⁵

The 2006 BRFSS asked Orange County residents about their history of falls. Results indicate that in the past three months, 7.7% of adults 45+ have fallen once and 6.9% of adults have 2 or more times, compared to the 9% and 6.2% statewide. Of those who had fallen, men were more likely to have fallen multiple times, and 34.7% of them had sustained injuries.³²⁶

Data on unintentional injuries from the Detailed Mortality Statistics for Orange County is listed below.³²⁷

Year	Drowning	Fire	Accidental Poisoning	Falls
2005	2	2	8	6
2006	-	-	5	8

Table 7, A-3: Causes of Unintentional Deaths for Drowning, Fire, Accidental Poisoning and Falls in Orange County, 2005 and 2006.

Disparities

The data above indicates that in 2005, in Orange County, mortality due to motor vehicle crashes and unintentional injuries disproportionately affected males and whites (see Table 7, A-2). While at the state level, minorities and whites have roughly the same percent of deaths due to motor vehicle injuries. Orange County has lower percent of deaths due to unintentional injuries (2.5%) compared to NC as a whole (3.3%), and roughly the same number of motor vehicle deaths compared to NC as a whole, 2.1% to 2.2% respectively.³²⁸

According to the 2006 BRFSS data, men, whites, adults between ages 18 and 44, and persons with incomes less than \$50,000 were most likely to drive after drinking alcohol. Women, whites, adults between ages 45+, and individuals with a college education or an

³²⁴ Ibid

³²⁵ 2006-2007 End-of-year Reports, Chapel Hill-Carrboro City Schools and Orange County Schools

³²⁶ NC State Center for Health Statistics. 2004 BRFSS Topics for Orange County. Accessed September 11, 2007 at: <http://www.schs.state.nc.us/SCHS/healthstats/brfss/2002/oran/topics.html>.

³²⁷ NC State Center for Health Statistics. Detailed Mortality Statistics, Orange County. Accessed September 11, 2007 at: <http://www.schs.state.nc.us/SCHS/data/lcd/lcd.cfm>.

³²⁸ North Carolina State Center for Health Statistics. Leading causes of Death NC. Accessed September 11, 2007 at: <http://www.schs.state.nc.us/SCHS/data/lcd/lcd.cfm>.

income greater than \$50,000 were most likely to always wear seatbelts when driving, although none of these differences reached statistical significance.³²⁹

Community Survey Results³³⁰

As part of the 2007 Community Health Assessment survey, residents were asked to select their top three health concerns from a list provided. Although accidents and injuries was chosen by only about 9% of respondents, the related issue of drug and alcohol abuse was of great concern. Drug and alcohol abuse was the second most frequently chosen issue, with 43% of survey participants selecting it as one of their top three concerns.

As part of past community assessments, focus groups were held to discuss various health topics, including unintentional injury. Often Orange County residents expressed concern over accidents related to automobiles. In particular, they worried that, although they would like to walk and bicycle more to improve their health and the health of the environment, they may be putting themselves at risk by traveling on roads with a high volume of vehicle traffic. Residents advocated for more walking trails and bike lanes to be included in the community planning process, so that outdoor activity does not entail a risk of vehicular injury.

Resources

Orange County has several initiatives to address motor vehicle and other injury issues. Orange County Safe Communities Coalition works to promote awareness of injury and its impact on the community. Coalition members provide information, resources, training and support for injury prevention initiatives and activities within Orange County. In collaboration with AAA and Orange County courts, Safe Communities provides a Driver's Improvement Program in English and Spanish that is based on court referrals. Income from driver improvement program is used to fund mini grants for injury safety projects.

UNC AIR CARE and UNC Trauma Program sponsor "Let's Not Meet By Accident" a mock accident at local high schools. Students also visit the ED, trauma bay at UNC, and attend a talk given by law enforcement.

The Chapel Hill Fire Department holds a Child Safety Seat Clinic at Fire Station 2. Safety seats are available to purchase if needed. The fire Department also provides free smoke detectors for residents who cannot afford to buy them. There are also available to assist with getting the fire detectors mounted and placed properly.

The Orange County Fire and Emergency Management Services offer a number of programs that are preventive in nature, such as the "Welcome to the World" program for infant safety at home, and comprehensive home safety inspections for all residents – but particularly those who are more home-bound.

The UNC Injury Prevention Research Center (IPRC) is also a valuable resource in our community in providing research addressing the causes and prevention of injury in the community.

³²⁹ NC State Center for Health Statistics. 2005 BRFSS Topics for Orange County. Accessed September 11, 2007 at: <http://www.schs.state.nc.us/SCHS/healthstats/brfss/2002/oran/topics.html>.

³³⁰ These data are from the Orange County Community Health Assessment survey conducted by the Orange County Health Department, April, 2007. See appendix for survey content.

The *Remembering When* Curriculum, which focuses on fire and fall prevention for older adults, has been offered by the Cooperative Extension and Department on Aging.

Gaps and Unmet Needs

Although Orange County is meeting Healthy Carolinians 2010 targets for deaths due to motor vehicle crashes, there are still a significant number of highway fatalities and injuries in the state, all of which theoretically should be preventable. This indicates that there is a need for motor vehicle safety outreach efforts among residents of Orange County. In addition, there is still significant mortality due to non-traffic related injuries. An analysis of the detailed mortality statistics could help set priorities for injury prevention programs.

Data gathered from the YRBS would suggest a need for increased education about bike helmet use and not driving after drinking alcohol.

Emerging Issues

Continue awareness and education efforts about the consequences of drinking and driving and car seat safety/proper use.

B) Intimate Partner Violence

Healthy Carolinians Objectives related to intimate partner violence:

Reduce the rate of physical abuse by current or former intimate partners.

Developmental objective – baseline data to be collected in 2001.

Increase the number of victims of intimate partner violence seeking and receiving services

NC Target: 49,336 victims of intimate partner abuse will receive services.

Baseline: In 2006, 50,726 people sought help from domestic violence centers in North Carolina. The Family Violence Prevention Center of Orange County provided 3,548 direct services to 639 clients in 2006, 606 of whom were women and 33 of whom were men.³³¹

Impact

Intimate partner violence (IPV) can be defined as, “aggressive or controlling behavior by a person toward a partner in order to have power over that person’s actions”.³³² The term encompasses physical, emotional, and sexual abuse occurring in an intimate relationship, whether with a current or former girlfriend or boyfriend, spouse, or ex-spouse.

Healthy Carolinians 2010 reports that “North Carolina magistrates handle about 200,000 cases of domestic violence each year; that is about one case for every 13.5 adult women in the state. Nationally, 37% of the females seen in hospital emergency departments for violence-related injuries were there for injuries inflicted by spouses, ex-spouses, or non-marital partners...Nearly one-half the female homicide victims were murdered by a husband, ex-husband, or boyfriend. A North Carolina study of femicide found that more than half the women studied were killed by current or former intimate partners and at least two-thirds of those deaths were preceded by domestic violence.”³³³ “Intimate partner violence – whether

³³¹ Personal communication, Natalie Andrews, Community Education Coordinator, Family Violence Prevention Center, August 30, 2007.

³³² Healthy Carolinians 2010. Sexual Assault & Intimate Partner Violence.

<http://www.healthycarolinians.org/2010objs/sexassault.htm>.

³³³ Ibid.

sexual, physical, or psychological – can lead to various psychological consequences for victims: depression, antisocial behavior, suicidal behavior in females, anxiety, low self-esteem, inability to trust men, fear of intimacy.” Women who have been victims of IPV also demonstrate a tendency to engage in future unhealthy and/or risky behaviors. These behaviors include substance abuse, high risk sexual behavior and eating disorders.³³⁴ See data section below for more detailed statistics on substance abuse.

The economic costs are staggering as well. The CDC provides the following data.³³⁵

- Costs of IPV against women in 1995 exceed an estimated \$5.8 billion. These costs include nearly \$4.1 billion in the direct costs of medical and mental health care and nearly \$1.8 billion in the indirect costs of lost productivity.
- When updated to 2003 dollars, IPV costs exceed \$8.3 billion, which includes \$460 million for rape, \$6.2 billion for physical assault, \$461 million for stalking, and \$1.2 billion in the value of lost lives.
- Victims of severe IPV lose nearly 8 million days of paid work—the equivalent of more than 32,000 full-time jobs—and almost 5.6 million days of household productivity each year.

Victims and survivors of intimate partner violence give strikingly consistent descriptions of how violence has an impact on every aspect of their lives. Either while they were in a violent relationship or after leaving it, victims faced many barriers in their lives. While in violent relationships, many aspects of their lives were controlled, either directly or because of fear, by their abusers. Once they left violent relationships, they found that access to many services was limited because they had lost a home, insurance benefits, a car, a job, or other critical resources. Many times a former partner will continue the harassment or abuse after the relationship is ended.

Contributing Factors

Drug and alcohol abuse increases the risk of intimate partner violence.³³⁶ In addition, research indicates that witnessing or being a victim of family violence as a child increases one’s chances of being both a victim and perpetrator of intimate partner violence later in life. “A combination of individual, relational, community and societal factors contribute to the risk of being a victim or perpetrator of IPV. Understanding these multilevel factors can help identify various points of prevention intervention.”³³⁷

Data

In 2002, as part of the Behavioral Risk Factor Surveillance Survey (BRFSS), North Carolina added a question about occurrences of physical or sexual assault specifically by a partner or ex-partner. Results showed that 12.3% of women and 7.7% of men had been physically assaulted; 4.5% of women and 0.3% of men had been sexually assaulted.³³⁸ Subsequent BRFSS surveys have not included this exact question, so there is no comparison data for the intervening time. However, in 2003, North Carolina included a more general question about

³³⁴ Partner Violence Prevention Facts, Centers for Disease Control, <http://www.cdc.gov/ncipc/factsheets/ipvfacts.htm>, accessed August 30, 2007

³³⁵ Ibid.

³³⁶ Healthy Carolinians 2010, Sexual Assault-Intimate Partner Violence, <http://www.healthycarolinians.org/2010objs/sexassault.htm>

³³⁷ Intimate Partner Violence Prevention Facts, Centers for Disease Control, <http://www.cdc.gov/ncipc/factsheets/ipvfacts.htm>, accessed August 30, 2007.

³³⁸ NC State Center for Health Statistics. 2002 BRFSS Topics for Orange County. <http://www.schs.state.nc.us/SCHS/brfss/2002/oran/topics.html>. Accessed August 30, 2007

violence: "Since you've been 18 years old, has anyone (including a relative, current or ex-husband/wife, current or ex-boyfriend/girlfriend, acquaintance, stranger, etc) ever pushed, hit, slapped, kicked, or physically hurt you in any other way?" Of those who answered yes, a follow up question asked them to identify their relationship with the perpetrator. Fifteen percent of Orange County residents answered yes, 13% of males and 17% of females. Of those, 73.5% indicated that the perpetrator of the violence was either a current or former domestic partner.³³⁹

In calendar year 2005, the Chapel Hill police department received 562 calls for domestic violence or domestic dispute complaints, of which 188 (33%) were repeat calls. Four hundred and seventy-one of the victims in the disputes were female, 91 were male. Of those calls, 192 were recorded as actual assaults. In 2006, the total figure was 534 called, the repeat calls again comprised 33% of the total, and 159 were listed as actual assaults. Four hundred and forty of the complaints in 2006 were from females, 94 from males. The violent offenses listed include: murder, attempted murder, assault on a female, assault with intent to commit serious injury, assault with a deadly weapon, assault with a deadly weapon with intent to kill, assault in the presence of a minor, assault and battery, assault by strangulation, simple assault, rape/sexual offense, kidnapping, and child assault during domestic violence.³⁴⁰ The 2005 and 2006 figures represent an increase in incidences over previous years; in 2004, CHPD responded to 526 cases, and in 2003, to 452.

In 2006, the Family Violence Prevention Center of Orange County provided 3,548 services to 639 clients (606 women and 33 men). Services provided included crisis line counseling, group counseling, case management, referrals, court advocacy, emergency financial assistance, placement, and shelter.³⁴¹

During fiscal year 2005-2006, the Horizons substance abuse program for women with children reported the following data on 100 admissions: 36% reported experiencing physical abuse as a child, 65% reported past histories of domestic violence, 22% of women in a current relationship did not feel safe with their partners and 44% reported experiencing sexual abuse in their lifetimes. Of the women who reported experiencing sexual abuse, 82% said that it had occurred under the age of 18, and 66% of those reported that it had happened at the age of 12 or younger.³⁴²

The CDC posts a number of alarming statistics on its violence prevention page. For example, nationally, intimate partner violence results in nearly two million injuries and 1,300 deaths yearly. They estimate that approximately 29% of women and 22% of men have experienced physical, sexual, or psychological intimate partner violence during their lifetime.

According to the 2007 Chapel Hill-Carrboro YRBS, 13.1% of high school students reported "yes" when asked, "In the past 12 months, did your boyfriend or girlfriend ever hit, slap, or physically hurt you on purpose?" While this sample is not representative of the entire County, it is important to monitor trends in dating violence among teens because "in addition to the

³³⁹ NC State Center for Health Statistics. 2003 BRFS Topics for Orange County, <http://www.schs.state.nc.us/SCHS/brfss/2003/oran/topics.html>. Accessed August 30, 2007

³⁴⁰ Domestic Violence/Dispute Annual Statistics 2005 Report, Chapel Hill Police Department, prepared by CHPD Domestic Violence/Sexual Assault Specialist Crisis Unit, February 14, 2006

³⁴¹ Personal communication, Natalie Andrews, Community Education Coordinator, Family Violence Prevention Center, August 30, 2007

³⁴² Personal communication from Angela Oberleithner, Program Director, Orange County Partnership for Young Children, February 20, 2007

risk for injury and death, victims of dating violence are more likely to engage in risky sexual behavior, unhealthy dieting behaviors, substance use, and suicidal ideation/attempts”.³⁴³ Furthermore, “dating violence victimization can be a precursor for IPV victimization in adulthood, most notably among women.”³⁴⁴

Disparities

National data suggest that women are more likely than men to be victims of intimate partner violence and that intimate partner violence against women is more lethal than that against men. In addition, low income women, minorities, women with lower levels of educational attainment, and persons with disabilities are more likely to experience intimate partner violence.³⁴⁵ Evidence regarding Latina women’s risk for intimate partner violence relative to non-Latina women has been conflicting.^{346,347,348} Orange County BRFSS data from 2002, as referenced above, failed to detect a statistically significant difference in rates of intimate partner physical or sexual assault based on race, age, educational attainment, or household income,³⁴⁹ probably because of the small numbers in the sample size.

Service providers in Orange County who work with victims of intimate partner violence recognize that geographic disparity exists with regard to access to community resources for victims or survivors of intimate partner violence. For example, Orange County Rape Crisis and the Family Violence Prevention Center (FVPC) both attempt to serve all of Orange County, yet FVPC only has a Chapel Hill office which makes them hard to access for those without reliable transportation. This presents a particular hardship for victims of intimate partner violence, since perpetrators often use social isolation and withholding of resources like the family’s money or car, to control their victims.

Community Survey Results³⁵⁰

As part of the 2007 Community Health Assessment survey, Orange County residents were asked for their perceptions of the seriousness of various types of violence in the Orange County community. Of those surveyed, 58% said that intimate partner violence was either somewhat of a problem or a major problem. Another 31% said they did not know if it was a problem, while 11% said they did not think intimate partner violence was a problem in the Orange County community. See the graph below for a detailed breakdown of the responses. (Note: the full terminology used in the survey was “Domestic violence/Partner abuse.”)

³⁴³ CDC, Morbidity and Mortality Report: Physical Dating Violence Among High School Students --- United States, 2003. Accessed on September 4, 2007 at <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5519a3.htm>.

³⁴⁴ Ibid

³⁴⁵ Personal communication from Angela Oberleithner, Program Director, Orange County Partnership for Young Children, February 20, 2007

³⁴⁶ Caetano R, Cunradi CB, Clark CL, Schafer J. Intimate partner violence and drinking patterns among white, black and Hispanic couples in the US. *J Subst Abuse* 2000;11:123-38.

³⁴⁷ Lown EA, Vega WA. Prevalence and predictors of physical partner abuse among Mexican American women. *Am J Public Health* 2001; 91:441-5.

³⁴⁸ Bauer HM, Rodriguez MA, Perez-Stable EJ. Prevalence and determinants of intimate partner abuse among public hospital primary care patients. *J Gen Intern Med* 2000;11:811-7.

³⁴⁹ NC State Center for Health Statistics. 2002 BRFSS Topics for Orange County.

<http://www.schs.state.nc.us/SCHS/healthstats/brfss/2002/oran/topics.html>. Accessed October 22, 2003

³⁵⁰ These data are from the Orange County Community Health Assessment survey conducted by the Orange County Health Department, April, 2007. See appendix for survey content.

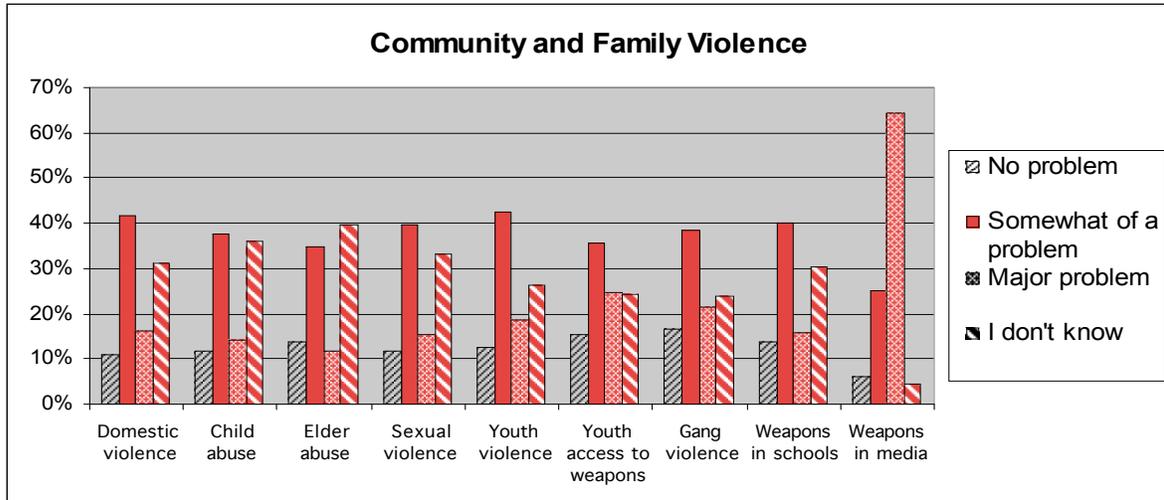


Figure 7, B-1: Responses to the survey question, “Now we want to ask about community and family violence. In your opinion, are these types of violence a problem in your community here in Orange County?”

In previous years, the Community Health Assessment involved focus group interviews with Orange County residents, some of whom were survivors of intimate partner violence. They stressed the importance of continuing to support services provided by the Family Violence Prevention Center (FVPC). They also expressed concern that, while FVPC can do a lot to help victims, those who are already facing barriers of poverty or language may still face significant difficulties accessing services if they leave a violent relationship. These barriers cause some victims to stay in violent relationships, and they contribute to the anxiety and shame that many victims who do leave struggle with on a daily basis. Residents are hopeful that by increasing awareness and prevention programs, continuing to expand FVPC’s services, and enhancing services related to housing, child-care, employment, and other basic needs, we may be able to more effectively fight family violence in our county.

In addition, based on the 2007 survey results, there is clearly a need to raise awareness in the community about the seriousness of the issue and the consequences thereof. There is a tremendous cost to our community as a result of intimate partner violence, both in human suffering and in economic terms.

Resources

The Family Violence Prevention Center, Orange County Rape Crisis Center, and the Chapel Hill police crisis unit all provide both intervention services and prevention at a community level, such as offering education to local schools, agencies, and other service providers. The Beacon Program provides advocacy, counseling, case management, referrals to community agencies and health care providers, support, and medical evaluations for patients of UNC Healthcare who are experiencing intimate partner violence.

Gaps and Unmet Needs

Because availability of transportation may be a significant barrier for individuals experiencing intimate partner violence, there appears to be a need to increase accessibility of services for residents of northern Orange County. Residents and providers also expressed a wish that Orange County had a shelter for victims of domestic violence. Although the Family Violence Prevention Center has a good working relationship with shelters in other counties, it would serve Orange County residents better to have a shelter located in the county.

Emerging Issues

More and better data about intimate partner violence among minority groups is needed in order to give providers a better picture of trends within the various segments of the community.

In addition, many believe that violence in the media, including television, films and video games, creates a culture of violence that reinforces an image of women as sexual object. As can be seen from the graph above, 89% of residents surveyed feel that violence in the media is a problem; 64% of them believe it is a major problem. Although most interventions have focused on providing shelters and other services for battered women, there are some that have targeted the societal forces that serve to reinforce or condone the battering behaviors by way of a strategy of media advocacy. One program, called the Dangerous Promises campaign, has worked to raise awareness of the way in which women are sexually portrayed in advertisements, particularly those for alcohol, and how the images are linked with violence.³⁵¹ The Girls, Women + Media advocacy network is an activist group and a resource for information about consumer issues related to women in the media. They were inspired by the Dangerous Promises campaign, and they work with other organizations with related interests. See their website for more information:

<http://www.mediaandwomen.org/index.html>.

C) Sexual Violence

Healthy Carolinians Objectives Related to sexual violence are:

Reduce Sexual Assault

Developmental Objective: Baseline data to be collected in 2001.

Increase the number of sexual assault victims seeking and receiving services.

NC Target: 6,793 victims of sexual assault will receive services.

From July 2006 to July 2007 the Orange County Rape Crisis Center provided services to 425 victims of sexual assault.³⁵²

Impact

Key Facts³⁵³

- Every two and a half minutes, somewhere in America, someone is sexually assaulted.
 - One in six American women are victims of sexual assault, and one in 33 men. In 2004-2005, there were an average annual 200,780 victims of rape, attempted rape or sexual assault.
 - About 44% of rape victims are under age 18, and 80% are under age 30.
 - Since 1993, rape/sexual assault has fallen by over 69%.
-

³⁵¹ Woodruff, Katie, MPH. Alcohol Advertising and Violence Against Women: A Media Advocacy Case Study, Health Education Quarterly, Vol. 23 (3): 330-345 (August 1996)

³⁵² Personal communication from Michelle Johnson, Associate Director, Orange County Rape Crisis Center, July 1st, 2007.

³⁵³ Rape, Abuse and Incest National Network, 2006, Retrieved July 1, 2007, from <http://www.rainn.org/statistics/index.html?PHPSESSID=ab06b2ab16fc8ef3ae167f81a51872db>.

Sexual assault can be defined as “any unwanted sexual contact or attention achieved by force, threat, bribe, manipulation, pressure, trickery, or violence.” Sexual violence may be physical or non-physical and includes rape, attempted rape, child abuse, incest, stalking, and sexual harassment. Most survivors report having known their perpetrator. The NC Department of Justice reports that there were 2,430 women raped in North Carolina in the year 2006.³⁵⁴

Sexual violence is a widespread problem that affects women disproportionately. About one in six women are victims of sexual violence in their lifetime. Although sexual violence disproportionately impacts women, one in eight men reports experiencing some form of sexual violence in their lifetimes. In both men and women the rate at which sexual violence actually occurs may be significantly higher because many incidences of sexual violence go unreported. Sexual violence affects a person’s mental and physical well being for years beyond the occurrence of the event. Mental health consequences for survivors include depression, anxiety, post traumatic stress disorder, substance abuse and suicidal ideation.

Contributing Factors

There are many factors that contribute to the likelihood that a given individual will become a victim of sexual violence. A person’s race, ethnicity, age, ability level, poverty level, gender, and sexual orientation can all be factors which place certain individuals at a higher level of vulnerability, thus increasing their risk of becoming a victim of sexual violence. At the Orange County Rape Crisis Center, the vision is to “live in a just and equitable world free of sexual violence and all forms of oppression.” The center tends to look at how sexual violence has been used historically as a tool of oppression, and views various forms of oppression as being interlinked rather than existing in a vacuum and applicable only to a particular individual. We live in a culture that perpetuates a cycle of violence, where “blaming the victim” is an acceptable perspective. This cultural norm impacts people’s ability to come forward, and even their ability to name what they experienced as sexual violence.

Data

According to the State Bureau of Investigation there were 33 rapes reported by law enforcement in Orange County in 2006.³⁵⁵ In contrast to this strikingly low number, the Orange County Rape Crisis Center provided direct services to 425 survivors of sexual assault in the fiscal year from July, 2006 to June, 2007. In addition, the Rape Crisis Center provided community education program related to sexual assault to over 11,000 individuals over the same time period.

According to the 2007 Chapel Hill-Carrboro City Schools YRBS, 9.5% of high school students reported being physically forced to have sex when they did not want to.

Disparities

As noted on the Healthy Carolinians website, “sexual assault victims are disproportionately adolescents and young adults. The National Victim’s Center study found that 54% of all sexual assault victims were assaulted between the ages of 11 and 24, and an additional 29% prior to age 11. About 90% of sexual assault victims are females. A longitudinal study of North Carolina college students found that almost 50% of the females had been sexually victimized as adolescents; 20.4% had been victims of rape or attempted rape; 15% had been

³⁵⁴ North Carolina State Bureau of Investigation, Crime Statistics, 2006 Annual Summary Report, Retrieved July 1st, 2007, from <http://sbi2.jus.state.nc.us/crp/public/Default.htm>.

³⁵⁵ Ibid.

verbally coerced into sexual intercourse; and 14% had been coerced into other unwanted sexual contact. About 20% were victimized during college.”³⁵⁶

According to the NC Office on Disability and Health, “women living with disabilities are five times more likely to be sexually assaulted than women without disabilities. Nationally, about 85% of women with disabilities have experienced domestic violence. At least 76% of adults with cognitive disabilities have been sexually assaulted. In addition, services may not be accessible and inclusive for these women.”³⁵⁷

Community Survey Results³⁵⁸

In the 2007 Community Survey, residents were asked for their perceptions of the seriousness of various types of violence in the Orange County community. Of those surveyed, 55% said that sexual violence was either somewhat of a problem or a major problem. Another 33% said they did not know if it was a problem, while 12% said they did not think sexual violence was a problem in the Orange County community. See the Figure 7, B-1 above for a detailed breakdown of the responses.

The residents were also asked to look at a list of social concerns and to select the three issues they felt were of greatest concern in the community. Twenty percent of those polled indicated that community violence was one of the three most important issues to be addressed.

Clearly there is an opportunity to raise awareness in the community about the prevalence of sexual violence and both its short and long term repercussions.

Resources

The Orange County Rape Crisis Center (OCRCC), with offices both in Chapel Hill and Hillsborough, offers a 24 hour crisis hotline, support groups for survivors of sexual violence, including primary and secondary survivors, primary prevention, and community education programs for schools, businesses, churches and other places of worship, and other interested groups. In addition, the Orange County Rape Crisis Center offers companion services to survivors who receive treatment at the UNC Emergency Department following a sexual assault. Survivors are accompanied by someone who is trained to serve as an advocate for the survivor during the examination process. The center is proud to announce the addition of a staff person focused on increasing our ability to provide services to Spanish speaking clients. From July 2006 to June 2007, OCRCC provided services to twenty-one Latino/Hispanic clients as compared to four Latino/Hispanic clients from July 2005 to June 2006. The Rape Crisis Center coordinates a county-wide Sexual Assault Response Team that works to bring consistency to the way that sexual assault cases are handled throughout the seven law enforcement jurisdictions of Orange County. In addition to providing immediate response to sexual assault survivors in crisis, the Center conducts support groups as well. From July 2006 to June 2007, the center was able to offer eight groups including a group for men and another for secondary survivors. The Rape Crisis Center is initiating a new program which will allow us to provide short term therapy services to survivors. This will include an

³⁵⁶ Healthy Carolinians, Injury-Sexual Assault and Intimate Partner Violence, Retrieved July 1st, 2007, from <http://www.healthycarolinians.org/2010objs/sexassault.htm>.

³⁵⁷ The North Carolina Office on Disability and Health, Retrieved July 1st, 2007, from <http://www.fpg.unc.edu/~ncodh/WomensHealth/domesticviolence.cfm>.

³⁵⁸ These data are from the Orange County Community Health Assessment survey conducted by the Orange County Health Department, April, 2007. See appendix for survey content.

intake session with a trained clinician and short term therapy in house, longer term therapy in the community and/or a support group at the center.

Gaps and Unmet Needs

Although OCRCC is working on improving access to services for Spanish speaking clients, Orange County will need to work on how to improve its system of care for this population to include accurate interpretation throughout the process a survivor undergoes, from receiving assistance from law enforcement, to the judicial system, community agencies, and the healthcare system.

Volunteers are a key component of community response. The Center requires volunteers to provide advocacy on our 24 hour crisis line as well as co-present our educational programs. Partners need to work together to increase community awareness of the prevalence of sexual violence, as well as to engage them in the work of the center, toward the goal of stopping sexual violence and its impact on the survivors thereof.

Emerging Issues

There are many issues that will impact our work to stop sexual violence and its impact in the future. One in particular is the emergence of human trafficking and its overlap with sexual violence.

The following is from the US Immigration Lawyers website, "Due to the "hidden" nature of trafficking activities, gathering statistics on the magnitude of the problem is a complex and difficult task. The following statistics are the most accurate available, given these complexities, but may represent an underestimation of trafficking on a global and national scale. Each year, an estimated 600,000 to 800,000 men, women, and children are trafficked across international borders (some international and non-governmental organizations place the number far higher), and the trade is growing. Of the 600,000-800,000 people trafficked across international borders each year, 70% are female and 50% are children. The majority of these victims are forced into the commercial sex trade."³⁵⁹

Although it may seem unlikely that our community would be the scene of this type of crime, Orange County is by no means immune. If it were to occur, it would have a serious impact on our community. Human trafficking presents many challenges to service providers and organizations, given that people who are trafficked into the United States speak multiple languages and come from many different cultures.

An ongoing challenge is getting more men involved in the movement to end sexual violence. It is important to engage men in providing education and advocacy to survivors of sexual violence.

D) Child Abuse and Neglect

Healthy Carolinians Objectives related to child abuse and neglect: are:

Reduce the rate of repeat substantiated maltreatment (abuse and neglect) of children.

No baseline data.

³⁵⁹ US Immigration Lawyers, Retrieved July 1st, 2007, from <http://www.usimmigrationlawyers.com/Human-Trafficking2.cfm>.

In Orange County for the fiscal year 2006-2007, there were reports of child abuse and neglect involving 1,284 children. Of those, 30% (385 children) were found in need of services or substantiated.³⁶⁰

Impact

Child abuse and neglect continue to be serious issues in Orange County. The social and economic consequences of child abuse and neglect are many. Healthy Carolinians 2010 reports that the costs of child abuse and neglect intervention and treatment are \$10,000/year/child, plus court costs to investigate a case resulting in foster care. Substance abuse, mental illness, and domestic violence are frequently issues present in families where there is child maltreatment.

Effects of child abuse and neglect last over a lifetime and are often passed on to the next generation. One-third of abused children grow up to continue the pattern of seriously inept, neglectful, or abusive parenting. A forty-year study of abused and neglected children found that half of these children had been convicted of serious crimes, were mentally ill, had substance abuse problems, or died at an early age. Child abuse increases an individual's chances of delinquency and adult criminality (including violent crimes) by over 40 percent.³⁶¹ Child abuse can lead to juvenile delinquency. It costs \$50,000/year to detain a young person in a public training school facility and over \$80,000/year to treat a seriously troubled child in a mental health facility.

Contributing Factors

Healthy Carolinians 2010 reports that men who abuse their partners may also abuse their children. Abused women are more likely to abuse their children than non-abused women. Children living in homes where there are economic hardships, lack of employment, poverty, emotional fragility, substance abuse, domestic violence, lack of social support, and lack of education are at risk for abuse and/or neglect. Children who are disabled and developmentally challenged have a higher incidence of abuse and neglect. Children who are medically fragile are at risk. Child maltreatment is three times as likely in alcohol abusing families compared with non-alcohol abusing families. Children from families with annual incomes below \$15,000, as compared to children from families with annual incomes above \$30,000 per year, were over 22 times more likely to experience some form of maltreatment.³⁶²

Data

Detailed information about child welfare services is not available for 2006-2007. The following data is based off of the 2005-2006 data. In Orange County, 27% of children assessed (305 children) or were found substantiated or in need of services, compared to the 22.1% at the state level. Of the 305, 140 were males, and 165 were females. One hundred and sixty-six of them were 0 to 6 years of age, 86 were 7 to 13 years of age, and 53 were 13+ years. One hundred and sixty-five were classified as white, 116 were African American, and 24 were other. Of the 305, 78 were found substantiated.³⁶³ A breakdown of the types of maltreatment is listed in Table 7, D-1 below.

³⁶⁰ Personal Communication, Denise Shaffer, Orange County DSS Services Director, 9/19/07

³⁶¹ Healthy Carolinians 2010, Child Abuse, pg 141

³⁶² Ibid

³⁶³ Department of Health and Human Service, Child Welfare, Orange County 2005-2006. Accessed on September 19, 2007 at www.dhhs.state.nc.us/dss/stats.

Type of Maltreatment	Number in Orange Co.	Orange County	NC
Physical Abuse	8	10.3%	6.0%
Emotional Abuse	2	2.6%	0.7%
Sexual Abuse	9	11.5%	6.2%
Moral Turpitude	2	2.6%	1.2%
Improper Supervision	11	14.1%	14.5%
Improper Care	7	9.0%	10.1%
Improper Discipline No Physical Injury	1	1.3%	7.6%
Abandonment	0	0.0%	0.6%
Improper Medical/Remedial Care	3	3.8%	1.9%
Injurious Environment	15	19.2%	34.7%
Adoption Law Violation	0	0.0%	0.0%
Improper Discipline Physical Injury	3	3.8%	3.0%
Injurious Environment Domestic Violence	9	11.5%	8.2%
Injurious Environment Substance Abuse	8	10.3%	5.3%

Table 7, D-1: Number and Types of Child Maltreatment, 2005-2006³⁶⁴

Disparities

Studies suggest that younger children, girls, premature infants, children with physical or developmental disabilities, children who live in low income households, and children in families affected by substance abuse or intimate partner violence are more likely than others to be abused.³⁶⁵ See also contributing factors section above.

Community Survey Results³⁶⁶

Service providers who work with children who are abusing substances, getting into trouble with the law, or at risk of dropping out of school noted that these same children are often unidentified subjects of child abuse or neglect. Therefore, continuing to strengthen the services available for child abuse prevention and early intervention will likely reduce some of its long-term effects on children, families, and our community.

In the 2007 Community Health Assessment Survey, 12% of residents cited family violence as one of their top three social concerns. See Figure 7, D-1 below.

³⁶⁴ Ibid

³⁶⁵ Healthy Carolinians 2010, Child Abuse, pg 141

³⁶⁶ These data are from the Orange County Community Health Assessment survey conducted by the Orange County Health Department, April, 2007. See appendix for survey content.

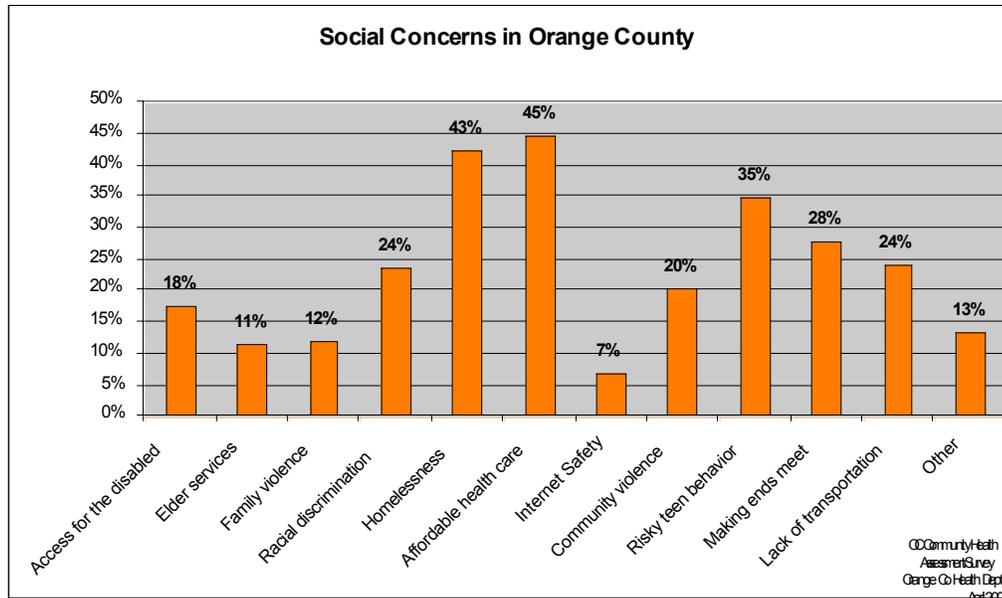


Figure 7, D-1: Responses to the question, “Which of these things stand out to you as important social issues in Orange County. From this list, choose three.

Resources

The Orange County Rape Crisis Center conducts programs in nearly every public Kindergarten through 4th grade class in the County, along with many middle school and high school classrooms; these programs, focused on personal safety, lead to many disclosures of possible sexual as well as other forms of abuse. To a lesser extent, the Family Violence Prevention Center of Orange County, located in Chapel Hill, provides community education as well. Prevention services are offered by a number of organizations.

The Department of Social Services, the Mental Health Association, and El Futuro offer parenting education for parents who have been or are at risk of becoming abusive or neglectful.

The Orange County Health Department offers Child Service Coordination services for families with children at risk for developmental delays and Intensive Home Visiting for first-time parents with factors that place them at high-risk for child abuse.

The Orange County Prison offers parent education programs to incarcerated parents. The prison, in collaboration with Forgiving Ministries, holds a *One Day with God Camp* for fathers and their children and offer a follow-up program, Fabulous Fathers, for fathers who went to One Day with God camp to meet once a month and learn about how to be a good father.

If a child has been physically or sexually abused they may be examined through the Child Medical Evaluation program.

Gaps/Unmet Needs/Emerging Issues

There is a critical need for additional foster families in Orange County due to the increase in the number of children in DSS custody. Children need a safe, nurturing, stable environment particularly when they have been removed from their homes. Siblings need to be placed together. Matching the needs of the child to the skills of the family requires a wide variety of available families from across the county. Increased support for relative placement providers

is also needed. Relative caregivers need social and community support to help them deal with the added pressures of caring for one or more additional children.

One service provider, who works with physicians across the state on issues related to child abuse, noted that there is an increase in the number of Latino families being referred for services. Agencies are attempting to increase their language ability and cultural competence, yet they need more financial resources to be able to fully meet the needs of a diverse client population. Given that the number of Latino residents in this community is continuing to increase, the gap between the need for and the availability of services provided in a culturally competent manner will continue to widen unless resources are committed to increasing the linguistic and cultural competencies of service agencies. Additionally, there is a need for additional parenting education services to be available particularly in Spanish.

Access to quality mental health treatment is need for both the children and parents who struggle with mental health disorders. DSS is also seeing an increase in number of children born to substance abusing mothers.

E) Homicide

Healthy Carolinians Objectives related to homicide are:

Reduce homicides to 5.0 homicides per 100,000 population

In Orange County in 2006, there were 5 homicides for a rate of 2.4 homicides per 100,000 population.³⁶⁷

** Death rates with numbers below 10 should be interpreted with caution.*

Impact

According to Healthy Carolinians 2010, on an average day in the United States, 53 persons die from homicide and a minimum of 18,000 persons survive interpersonal assaults.³⁶⁸ Homicide is the second leading cause of death for persons aged 15 to 34 years and the leading cause of death for African American/Blacks in this age group.³⁶⁹

Contributing Factors

Accessibility of firearms is a major contributor to the incidence of homicide. Healthy Carolinians 2010 reports that homicides are most often committed with guns, especially handguns. Homicides of teens and young adults are much more likely to be committed with a gun than homicides of persons of other ages. Across the country, for every fatality caused by a firearm, approximately three more persons received non-fatal gunshot wounds.³⁷⁰

Substance abuse is also a contributor. Healthy Carolinians 2010 reports that, in national surveys, 33% of state prisoners and 22% of federal prisoners said they had committed their offense while under the influence of drugs. About 60% of mentally ill and 51% of other inmates in state prison were under the influence of alcohol or drugs at the time of their

³⁶⁷ NC State Center for Health Statistics. Mortality Statistics Summary for 2005, North Carolina Residents, Homicide. Accessed on September 13, 2007 at <http://www.schs.state.nc.us/SCHS/deaths/lcd/2005/homicide.html>.

³⁶⁸ Healthy Carolinians 2010. Violence: Homicide, assault, suicide and firearms. Accessed on September 13, 2007 at <http://www.healthycarolinians.org/2010objs/violhomicide.htm>.

³⁶⁹ Healthy Carolinians 2010. Violence: Homicide, assault, suicide and firearms. Accessed on September 13, 2007 at <http://www.healthycarolinians.org/2010objs/violhomicide.htm>.

³⁷⁰ Ibid

current offense.³⁷¹ Homicide is also more likely to occur as a result of an argument between individuals who know each other than between strangers. A majority of homicide victims (85%) knew the perpetrator.³⁷²

Data

Orange County has met the Healthy Carolinians objective for homicides, with a rate of 2.4 per 100,000 population between 2001-2005. Orange County’s current homicide rate is lower than the 1999 -2001 rate (3.7 per 100,000) and the North Carolina rate (6.2 per 100,000 population).³⁷³

Homicide Rate for Orange County, 2002-2006

Year	2003	2004	2005	2006
Orange County	2.5	3.3	4.1	2.4

Table 7, E-1: Homicide Rate for Orange County, 2003-2006³⁷⁴

BRFSS data from 2004 (the last survey that asked questions regarding gun safety) indicates that 25.7% of Orange County residents have a gun in the home, significantly lower than the state rate of 40.9%. Of these, 29.6% keep a loaded gun in the home. The availability of handguns is important because in Orange County and across the Nation, handguns are the most common weapon used to commit homicide.³⁷⁵

Murder by Weapon, Orange County

Year	Handgun	Shotgun	Rifle	Other/ Undeter. Firearm	Knife	Blunt Object	Personal Weapons (Hands, etc.)	Unknown	Total Murders
2002	7	-	-	-	-	1	-	-	8
2003	3	-	-	-	-	-	-	-	3
2004	3	-	-	-	1	-	-	-	4
2005	1	-	-	-	-	-	4	-	5
2006	-	-	1	1	1	-	-	-	3

Table 7, E-2: Murder by Weapon by County, 2002-2006³⁷⁶

Disparities

Data on race and sex of homicide offenders is not available for Orange County. However, state level data indicates that more men than women commit acts of homicide,³⁷⁷ and national data indicates that individuals 15 to 34 years old and black males have the highest rates of deaths due to homicide.

³⁷¹ Ibid

³⁷² Ibid

³⁷³ NC State Bureau of Investigators, Homicide Rate by County. Accessed on September 13, 2007 at <http://sbi2.jus.state.nc.us/crp/public/Default.htm>.

³⁷⁴ NC State Bureau of Investigators, Crime in NC by County. Accessed on September 13, 2007 at <http://sbi2.jus.state.nc.us/crp/public/Default.htm>.

³⁷⁵ NC State Bureau of Investigators, Murder by Weapon. Accessed on September 13, 2007 at <http://sbi2.jus.state.nc.us/crp/public/Default.htm>.

³⁷⁶ Ibid

³⁷⁷ NC State Bureau of Investigators, Murder by Age and Sex. Accessed on September 13, 2007 at <http://sbi2.jus.state.nc.us/crp/public/Default.htm>.

Community Survey Results

The community survey did not ask questions specific to homicide. See Chapter 4: Crime and Safety section for more information on these topics.

Resources

Please see Chapter 4: Crime and Safety section for resources related to homicide.

Gaps and Unmet Needs

Although the county as a whole is meeting Healthy People 2010 targets with regard to homicide, there is an opportunity to decrease the incidence of homicide in the County. Orange County data suggest that there is a need to increase awareness of handgun safety in the home. The high rates of homicide among African Americans nationally also points to a need to explore the reasons for the disparity and focus prevention efforts in minority communities. Given the role of substance abuse in homicide, and the rates of substance abuse in the County and the limited substance abuse resources in the community, focusing on substance abuse treatment and prevention may also help reduce the incidence of homicide. See Chapter 10: Substance Abuse for more information on this topic.

Emerging Issues

The county mental health system is undergoing significant organizational changes, including a shift away from providing direct services to mentally ill clients. It is unclear at this time how many clients might lose access to counseling and psychiatric services as a result of these changes. If the availability of services to mentally ill individuals in Orange County is reduced, the homicide rates could potentially be affected.

F) Suicide

Healthy Carolinians 2010 Objectives related to suicide are:

Reduce the suicide death rate to 8 suicide deaths per 100,000 population.

In Orange County in 2005, there were 17 reported suicides or 14.2 per 100,000 population.³⁷⁸ This is higher than the statewide average of 12 per 100,000.

Impact

According to Healthy Carolinians 2010, on an average day in the US, 84 persons complete suicide, and as many as 3,000 persons attempt suicide.³⁷⁹ Worldwide it is estimated that one million people take their own lives each year, accounting for more deaths than homicide and war combined. Overall, suicide is the eighth leading cause of death for North Carolinians and is the third leading cause of death for young people ages 15 to 24.³⁸⁰

Contributing Factors

Two primary factors contributing to suicide are substance abuse and mental illnesses. Studies have shown a high incidence of psychiatric disorders in suicide victims at the time of their death with the total figure ranging from 87.3% to 98% of individuals, with mood disorders (depression and bipolar) and substance abuse being the two most common

³⁷⁸ NC State Center for Health Statistics. 2005 County Health Data Book. <http://www.schs.state.nc.us/SCHS/healthstats/databook/racesex.doc>. Accessed September 8, 2007.

³⁷⁹ Healthy Carolinians 2010. Violence: Homicide, assault, suicide and firearms. <http://www.healthycarolinians.org/2010objs/violhomicide.htm>. Accessed August 30, 2007.

³⁸⁰ NC State Center for Health Statistics. 2005 County Health Data Book. <http://www.schs.state.nc.us/SCHS/healthstats/databook/racesex.doc>. Accessed September 8, 2007.

disorders. Other factors contributing to suicide include difficulty in coping, inescapable suffering or fear, stress, life pressures and adverse environments.^{381,382,383}

Data

In Orange County, the rate of suicide (14.2 per 100,000 population) is higher than the statewide average (12 per 100,000) and much higher than the Healthy Carolinians 2010 Objective of 8 per 100,000). Furthermore, when you compare the age-adjusted suicide rate from 1999-2001 (3.7) to the rate from 2001-2005 (9.6), the rate has more than doubled.³⁸⁴

While it is difficult to draw conclusions from this data, one could speculate that Orange County's higher than average rate may be explained by its lower than average African American population and higher than average white population. Whites complete suicide at more than twice the rate of African Americans.³⁸⁵

Data from the 2007 Chapel Hill-Carrboro City Schools YRBS and the End-of-Year Reports from the two school systems provide data on adolescent suicide in Orange County.

- In the past 12 months, 13% of CHCCS high school students thought about committing suicide.
- In the past 12 months, 8.7% of CHCCS high school students made a plan about how to commit suicide.
- In the past 12 months, 12.3% of CHCCS high school students tried to commit suicide.
- 15.5% of CHCCS middle school students have at some point thought about killing themselves
- 12.9% of CHCCS middle school students have made a plan to kill themselves.
- One suicide death was reported by CHCCS during the 2006-2007 school year.
- Seven suicide attempts (2 middle schoolers and 5 high schoolers) were reported by Orange County Schools during the 2006-2007 school year. No deaths were reported.

Disparities

Overall, suicide is the tenth leading cause of death in Orange County. However, data from the State Center for Health Statistics show that for ages 0 to 19 years and ages 40 to 64 years, suicide is the fourth leading cause of death, while for ages 20 to 39 years, suicide is the second leading cause of death.³⁸⁶ This is contrary to the national data, which suggest that suicide rates are higher among older adults.³⁸⁷ The suicide rate by gender is unavailable.

Community Survey Results

³⁸¹ Bertolote JM, Fleischmann A, Se Leo D, Wasserman D. (2004) Psychiatric diagnoses and suicide: revisiting the evidence. *Crisis.*, 25(4):147-55.

³⁸² Arsenault-Lapierre G, Kim C, Turecki G. (2004) Psychiatric diagnoses in 3275 suiciders: a meta-analysis. *BMC Psychiatry*, Nov 4;4:37.

³⁸³ Shuster, JL. (2000) Can depression be terminal illness? *Journal of Palliative Medicine*. Winter;3(4):493-5.

³⁸⁴ NC State Center for Health Statistics. 2005 County Health Data

Book. <http://www.schs.state.nc.us/SCHS/healthstats/databook/racesex.doc>. Accessed September 8, 2007.

³⁸⁵ Center for Disease Control Fact Book http://www.cdc.gov/ncipc/fact_book/factbook.htm. Accessed November 14, 2007.

³⁸⁶ NC State Center for Health Statistics. 2005 County Health Data

Book. <http://www.schs.state.nc.us/SCHS/healthstats/databook/racesex.doc>. Accessed September 8, 2007.

³⁸⁷ Healthy Carolinians 2010. Violence: Homicide, assault, suicide and firearms. <http://www.healthycarolinians.org/2010obj/violhomicide.htm>. Accessed August 30, 2007.

The 2007 Community Health Assessment Survey did not ask residents about concerns specific to suicide. See Chapter 10: Mental Health and Chapter 11: Substance Abuse for information about these related issues.

Resources

Please see Chapter 10, Mental Health for resources related to suicide.

Gaps and Unmet Needs

Orange County data points to a need to explore reasons for the high rates of suicide and focus prevention efforts in communities that are most affected by suicide. Treatment and prevention services for suicide are linked to mental health services; however, treatment options for individuals experiencing mental health illnesses are few (see Chapter 10 for additional data on mental health).

Emerging Issues

The county and national mental health systems have undergone a significant organizational change, including a shift away from providing direct services to mentally ill clients. As a result of this change, the mental health system had become more fragmented, making it difficult for residents to access counseling and psychiatric services. Limited availability of services to mentally ill individuals in Orange County may affect the suicide rates.

CHAPTER 8: ORAL HEALTH

Oral health is an important component of residents overall health, thus it is important to ensure that dental services are available to all residents. However, assessment data suggests that there is a lack of adequate dental services to meet the needs of Orange County residents, particularly residents who are uninsured, under-insured or on Medicaid.

Healthy Carolinians 2010 objectives for oral health are:

Increase the proportion of 5th graders whose permanent teeth are free of decay to 87 %
In Orange County during the school year 2005-2006, 93% of fifth graders received a dental screening and of those, 81% were cavity-free.³⁸⁸

Increase the proportion of adults who visited a dentist within the past year to 73.9%

According to the 2004 BRFSS (SMART), 75% of Orange County adults stated they had seen a dentist within the past year.³⁸⁹

Impact

Oral health is much more than having healthy teeth. According to the Surgeon General's report on oral health that was published in 2000, "Oral health is essential to the general health and well-being of all Americans and can be achieved by all Americans."³⁹⁰ Poor oral health can result in health, social and financial consequences. For example, dental caries left untreated can lead to needless pain and suffering, compromised nutrition, swollen faces, diminished self-esteem, increased susceptibility to other medical conditions, missed school days, and avoidable high health care costs.³⁹¹

Dental caries is the most prevalent oral disease among US children.³⁹² Although national surveys conducted during the past three decades show a decline in the overall prevalence of dental caries in the US, it remains a serious problem for children. Fewer than 10% of the children nationwide under age six have made a preventive dental visit. The prevalence of untreated caries in children two to five living in poverty is close to 80% and is not declining as it is for older children. The estimated dental bill to restore children's decayed teeth exceeds two billion dollars in the US, making it one of the single most uncontrolled diseases of children.³⁹³

Oral health is considered by the public³⁹⁴ and directors of Head Start programs³⁹⁵ and social services agencies³⁹⁶ as the #1 unmet health care needs among children in NC and this

³⁸⁸ North Carolina Division of Public Health, Oral Health Section. School Level Oral Health Status Data 2005-2006. Pg 90.

³⁸⁹ North Carolina State Center for Health Statistics, 2004 BRFSS survey results: Orange County.

³⁹⁰ US Department of Health and Human Services. Oral Health in America: A report of the Surgeon General. Rockville, Md.: US Department of Health and Human Services; 2000. National Institutes of Health publication. 00-4713

³⁹¹ North Carolina Institute of Medicine, Task Force on Dental Care Access. Report to the North Carolina General Assembly and to the Secretary of the North Carolina Department of Health and Human Services. Raleigh, NC: North Carolina Institute of Medicine; 1999.

³⁹² North Carolina State Center for Health Statistics, Center for Health and Environmental Statistics, Department of Environment, Health and Natural Resources. www.schs.state.nc.us/SCHS. Raleigh, NC 2006.

³⁹³ Brown et al. Trends in untreated caries in teeth of children 2 to 10 years old. J Am Dent Assoc 2000; 131: 93-100.

³⁹⁴ Lewit EM and Monheit AC. Expenditures on Health Care for Children and Pregnant Women. Medical Care 1992; 29: 543-57.

region. Every year 21% of the state's children begin kindergarten having experienced dental caries.³⁹⁷

Contributing Factors

Poor oral health in North Carolina, as in other places in the nation, is connected to a number of interrelated and complex factors. These factors can be attributed to individuals, dentists, employers and insurers. Oral health begins with the individual taking responsibility for his or her behavior. This includes oral hygiene and sound home care practices, healthy diet and nutrition, avoidance of tobacco and alcohol, and periodic preventive dental visits. A lack of awareness of the importance of oral health can affect whether the individual practices the appropriate lifestyle behaviors to prevent oral health problems.

Other factors that contribute to poor oral health status include lack of dental insurance. Without dental insurance coverage, many are unable to get needed dental care to prevent oral health problems. However, even when dental insurance is available, some populations, particularly those with low socioeconomic status, experience other barriers in getting dental care.³⁹⁸

The dental workforce in the state is insufficient to meet the need for care. In 2004, there were 3,628 licensed, active dentists in the state.³⁹⁹ This represents a dentist-to-population ratio of 4.2 dentists per 10,000 population—a rate that is well below the national average of 5.7 dentists per 10,000 population. Only eight counties have a dentist-to-population ratio equal to or greater than the national average. Seventy-nine of 100 counties qualify as federally-designated dental health professional shortage areas. The dentist-to-population ratio has remained flat since 1987.

NC has one of the lowest pediatric dentist-to-populations ratios in the country and the problem is likely to be exacerbated because a large number of pediatric dentists will retire in the next decade.⁴⁰⁰ Pediatric dentists have been shown to provide more comprehensive dental care to young children than general dentists. Historically, NC pediatric dentists are four times more likely to participate in Medicaid and care for a greater proportion of Medicaid patients relative to their absolute supply than do general dentists.⁴⁰¹

The primary reason North Carolina dentists cite for their reluctance to participate in the Medicaid program is low reimbursement rates.⁴⁰² Dentists point out that current

³⁹⁵ Kountz et al. A survey of the availability of dental services for Head Start children in North Carolina. 1998. Bowling Green, KY: Western Kentucky University, 1999.

³⁹⁶ Bobbitt-Cooke M. 2001 Legislative Priorities of North Carolina Local Health Departments and Districts. Raleigh, NC: Department of Health and Human Services, June 2000.

³⁹⁷ NC Division of Public Health, Oral Health Section. School Level Oral Health Status Data 2005-2006. Pg 90.

³⁹⁸ US Department of Health and Human Services. Oral Health in America: A report of the Surgeon General. Rockville, Md.: US Department of Health and Human Services; 2000. National Institutes of Health publication. 00-4713

³⁹⁹ North Carolina State Center for Health Statistics, Center for Health and Environmental Statistics, Department of Environment, Health and Natural Resources. www.schs.state.nc.us/SCHS. Raleigh, NC 2006.

⁴⁰⁰ North Carolina Institute of Medicine, Task Force on Dental Care Access. Report to the North Carolina General Assembly and to the Secretary of the North Carolina Department of Health and Human Services. Raleigh, NC: North Carolina Institute of Medicine; 1999.

⁴⁰¹ Cashion SW, Vann WF, Rozier RG, Venezie RD, McIver FT. Children's utilization of dental care in the NC Medicaid program. *Pediatr Dent*. 1999; 21 (2): 97-103.

⁴⁰² US Department of Health and Human Services. Oral Health in America: A report of the Surgeon General. Rockville, Md.: US Department of Health and Human Services; 2000. National Institutes of Health publication. 00-4713

reimbursement levels frequently do not even cover the cost of providing the services. Dentists also complain about the burdensome paperwork associated with Medicaid. The state, however, has made significant changes in Medicaid reimbursement and operations to simplify the program for dentists.

According to primary caregivers of Medicaid-insured children in North Carolina there are non-financial barriers as well, including fear of and anxiety about dental visits.⁴⁰³ Such perception may result in avoidance of dental visits. Parents also report that the practice behaviors of dental professionals make it difficult for them to get needed dental services for their children. Searching for a provider, arranging an appointment where choices are severely limited, finding transportation, and trying to take off from work, all leave families exhausted, dissatisfied and discouraged. Families who successfully negotiate these barriers are faced with additional barriers in the dental care setting, including long waiting times, restrictive office policies, and judgmental and disrespectful behavior from providers because of their public assistance status or their race. To avoid encountering such attitudes and behaviors, some families postpone or cancel dental visits for their children.

Data

Orange County has met all Healthy Carolinians objectives for oral health. However, as mentioned above, oral health remains a large health concern and focus area for the community. In fiscal year 2005-2006, the Orange County Health Department (OCHD) clinics had 4,010 patient visits. (The number of dental patient visits per year is usually 4,200 but for 2005-2006 the number of visits is lower due to vacant positions.) Of the 4,010 dental patient visits, 1,812 were adult visits and 2,198 were child visits. In addition, the OCHD clinics offer dental screenings and dental health education to children in child-care centers, family child-care homes, schools, and to adults in senior centers and other locations in Orange County. Education was provided to 4,348 preschool and school age children and adults in 2005-2006. Screening was provided to children in preschool, kindergarten, 2nd, 4th, and 5th grades for a total of 6,351 children screened in 2005-2006. The clinics also provided 911 dental sealants to dental patients in the OCHD Dental Program with emphasis on Medicaid-eligible children in 2005-2006. Finally, the clinics conduct the special Seal Orange County Kids Program annually where 435 sealants were provided to 112 children in 2005-2006. In Orange County, 44% of all 5th graders have dental sealants.

According to the 2007 Chapel Hill-Carrboro City School YRBS, 65% of middle school and 69% of high school students reported seeing a dentist within the past 12 months. While 3% of middle school students and 2.5% of high school students reported never seeing a dentist.⁴⁰⁴ No data was available for the Orange County School System.

The Student Health Action Coalition dental clinic now operates two nights each week at the OCHD Carrboro location, providing approximately 754 dental services to 384 patient visits annually. Additionally, in 2006-2007, the UNC Dental clinic served 884 patients from Orange County.

Disparities

As significant as oral health is, not everyone achieves the same degree of oral health. Despite the availability of safe and effective means of maintaining oral health, such as water

⁴⁰³ Mofidi M, Rozier RG, King RS. Problems with access to dental care for Medicaid-insured children: what caregivers think. *American Journal of Public Health* 2002; 92 (1): 53-58.

⁴⁰⁴ Youth Behavior Risk Survey, 2007, Chapel Hill-Carrboro City Schools

fluoridation, many still experience preventable dental conditions, such as dental decay, periodontal disease, and tooth loss. Sadly, for some, oral diseases remain lifelong conditions.

Thirty-one percent of Latino children aged 6 to 11 years had experienced decay in their permanent teeth, compared with 19% of non-Hispanic white children based on data from CDC's National Center for Health Statistics, the report, "Trends in Oral Health Status—United States, 1988–1994 and 1999–2004." The authors also state that "while we are continuing to make strides in prevention of tooth decay, this disease clearly remains a problem for some racial and ethnic groups, many of whom have more treated and untreated tooth decay compared with other groups." The same report noted tooth decay in primary teeth of children aged 2 to 5 years increased from 24% to 28% between 1988-1994 and 1999-2004.⁴⁰⁵

In North Carolina, while remarkable progress has been made in the prevention of dental decay, significant numbers of people continue to experience it. Oral health is the number one unmet health care need in North Carolina as reported by a wide array of public agencies including Head Start, long-term facilities, and local health departments. According to the Governor's Task Force for Healthy Carolinians oral health is the single most common health problem among children.⁴⁰⁶ Typically, these children with untreated tooth decay are from families of lower socioeconomic status and are eligible for Medicaid. From the 2005-2006 School Level Oral Health Status Data, 11% of kindergarten children and 2% of fifth graders had untreated tooth decay in Orange County. The state totals for NC revealed that 21% of kindergarteners and 5% of fifth graders had untreated tooth decay.⁴⁰⁷

Community Survey Results⁴⁰⁸

In the 2003 Community Health Assessment, dental care was rated as the sixth most important health issue in Orange County in the prioritization process.⁴⁰⁹ In the 2007 Community Health Assessment survey, dental care was rated by residents as the eighth most important. In 2003, many of the above-stated challenges to oral health were confirmed by a number of Orange County citizens who took part in the focus groups that were part of the community health assessment. These citizens discussed at length the barriers to getting needed dental care, including low priority accorded to oral health and lack of personal resources. Participants shared the concern that the rising costs of all types of health insurance—including dental—prevents employers from providing health insurance to their employees. This translates, according to the participants, to fewer numbers of working people having access to subsidized dental insurance. Participants also noted that the costs of dental insurance premiums, deductibles, and co-payments make private dental insurance out of reach for many people. For those without dental insurance, accessing dental care becomes a very difficult endeavor, because there are "so few low-cost options." Participants

⁴⁰⁵ U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics. "Trends in Oral Health Status: United States, 1988-1994 and 1999-2004." Vital and Health Statistics, 11.248.

⁴⁰⁶ Healthy Carolinians 2010, North Carolina's Plan for Health and Safety, Report of the Governor's Task Force for Healthy Carolinians, 2000. Pg 171.

⁴⁰⁷ North Carolina Division of Public Health, Oral Health Section. School Level Oral Health Status Data 2005-2006. Pg 90.

⁴⁰⁸ These data are from the Orange County Community Health Assessment survey conducted by the Orange County Health Department, April, 2007. See appendix for survey content.

⁴⁰⁹ Orange County Health Department, Healthy Carolinians of Orange County. Community Health Assessment. 2003. Pg 121.

stated that for those individuals, who do not make a 'living wage', dental care becomes unaffordable for them. In 2007, survey results reflected the same concern over cost. Of those surveyed, 24% stated that in the past 12 months that they wanted to get dental care but could not. Out of that group who did not receive regular dental care, 59% indicated that cost was the primary factor. See Figure 8-1 below.

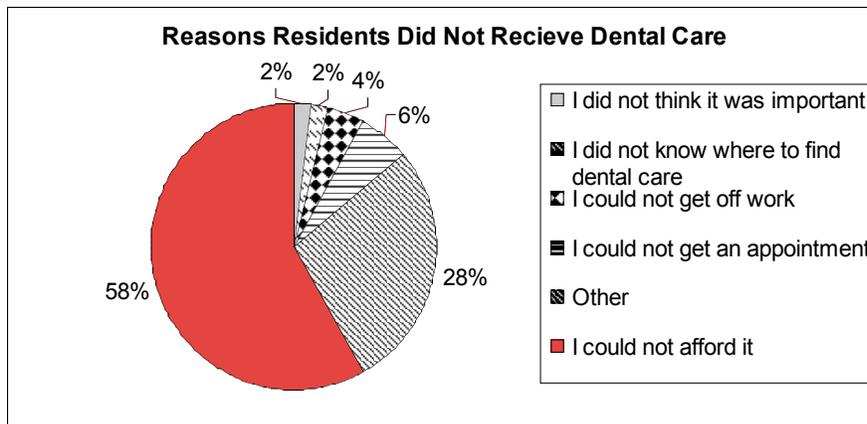


Figure 8-1: Reasons Residents Do Not Receive Dental Care

Citizens also expressed frustration that for many working poor families Medicaid is not an option. These families make too much money to qualify for Medicaid but too little to afford private insurance. Participants who had Medicaid reported that there are only a small number of dental providers who accept Medicaid. With so few providers it is very difficult to get an appointment in a timely manner, stated the participants. Residents surveyed in 2007 were also asked about the difficulty in finding a dentist who would see them, and 15% indicated that it was very or somewhat difficult to do so.⁴¹⁰ Waiting a long time to receive dental care discourages some citizens to get needed dental care at all. On a positive note, citizens praised places like the Orange County Health Department dental clinic and the Student Health Action Coalition for providing dental services at affordable and free rates, respectively.

Disparities

In addition to the problem of access to dental care, the OCHD dental clinic staff report that a high percentage of children in the Hispanic population are suffering from tooth decay. A survey was completed by participants at screenings conducted at two Spanish language health fairs in the fall of 2001. Eighty-six percent of those surveyed felt they needed to see a dentist and 66% of them said they were having dental problems such as pain (24%), swelling (27%) and other problems (40%). In addition, 61% of those surveyed said that high fees for service kept them from seeking dental care.

Resources

The County is fortunate to have two dental clinics housed within the Orange County Health Department (OCHD) that provide treatment for low income and Medicaid eligible children and adults. The OCHD clinics, one in Carrboro and one in Hillsborough, provide routine dental treatment including fillings, extractions and cleanings to residents of Orange County, primarily to patients who are Medicaid eligible, to low-income residents (sliding fee scale), and to children covered under North Carolina Health Choice, however, OCHD clinics will see any resident. They also provide emergency dental treatment within 24 hours to patients who

⁴¹⁰ Ibid.

experience pain/infection and swelling. Two nights per week, a free dental clinic, operated by the Student Health Action Coalition is offered in the Carrboro dental clinic location of OCHD. In addition, residents have access to the UNC School of Dentistry and Piedmont Health Services Dental Clinic. UNC School of Dentistry is open from 8:00am-5:00pm, 5 days a week and is open to all residents. Residents must apply to become a new member and are required to pay a moderate fee. UNC School of Dentistry also has an emergency/urgent care clinic for individuals experiencing pain. Piedmont Health Services (PHS) dental clinic at the Carrboro Community Health Center is open 5 days a week from 8:00am -6:00pm. Payment is based on a sliding-scale fee.

In 2006, the NC State Board of Dental examiners reported that 156 dentists and 82 dental hygienists reside (not necessarily practice) in Orange County. These high numbers are due to the presence of the UNC Dental School. Within the dental school, there are 74 dentists and 5 hygienists. Not all of these clinicians are available to see patients in the community. Orange County Dental Health Services contacted 52 Orange County dental practices. Of the 52, eight practices accept both Medicaid and NC Health Choice without limits on the number of these patients accepted. This includes four public institutions and four private practices.

Funding from the Orange County Partnership for Young Children has enabled the dental health staff of OCHD to provide dental screening and education to preschool children from 1994-2007. Between 1,400 and 1,800 preschool children were screened in each of those years. No preschool screenings were done in 2002, due to a funding cut, but a portion of the funding was reinstated in 2003, allowing 1,457 preschool children to be screened due through the *Give Kids A Smile Project*. The Orange County Partnership for Young Children, the Health Department, and the UNC School of Dentistry collaborated with 23 private dentists in Orange County to help provide the dental screenings and education. In addition, through the Partnership for Young Children funding, the program is trying to improve follow-up so that children who are discovered to be in need of dental care will receive it.⁴¹¹

Gaps and Unmet Needs

One of the overriding themes that emerged from the focus groups of community members was the lack of access to dental care. Participants felt that there is not enough dental care for low-income families and those without insurance and finding a provider who accepts Medicaid were the most significant barriers cited. Many working adults are simply unable to afford health/dental insurance for themselves and their families. Even if dental insurance is available, some community members struggle with the fact that dentists want patients to pay up front and then be reimbursed by insurance. For some families, this represents a deterrent to use dental services, as they may not have the resources at the time of the appointment. For some low-income patients getting dental care means going to the emergency room for a preventable visit. In 2003, there were 426 emergency room visits from Orange County Residents for dental related causes. In fiscal year 2006, 109 clients received treatment for dental pain and infection in the UNC Hospitals emergency department. Many of these visits were avoidable.

Although there are opportunities for low-income populations to receive dental care, such as OCHD, SHAC, Piedmont Health Services and the University of North Carolina Dental Clinic, these are not sufficient. It is very difficult to get appointments at OCHD and School of Dentistry, particularly at the latter. The OCHD Dental Health service is divided between two locations where dental treatment is provided two and a half days per week in each location.

⁴¹¹ Personal Communication, Angela Cooke, OCHD Dental Program Director, 10/17/03.

At the present time, there is not enough funding to open both of these clinics full time. One of the goals of the OCHD Strategic Plan is to be able to operate both dental clinics full time to accommodate the patient demand.

Another need has to do with following up on children who have had a dental screening. Every year over six thousand children are screened, of those, approximately 825 (13%) have documented dental decay. It is a challenge however, to contact the families of children for follow up visits and to get these families to make follow-up appointments.

Emerging Issues

The Orange County Health Department (OCHD) is in the process of developing a program to better address the dental needs of the Hispanic population. This is especially important given the rapidly rising numbers of Hispanics in the community. Currently, two days each week are devoted to services for Spanish-speaking clients. In 1995, 6% of the clients treated at the Orange County Health Department Dental Health Service were Hispanic/Latino. As of June 30, 2006, 42% of the clients being served are Hispanic/Latino. In addition to clinical dental treatment, there is a need for more dental health and nutrition education in terms of outreach to families with children. The OCHD is seeing these same issues in the Burmese and Karen refugee families. To date there is no qualified Burmese or Karen interpreter. The OCHD utilizes the AT&T Language Line, but this can be very costly as well as impersonal.

One other emerging issue is worth noting. The dental clinic at the OCHD has the potential to serve greater numbers of patients if it could find available and willing dentists to work full time at the clinic. The dental clinic has adequate facilities to serve the oral health needs of an increasing number of patients. However, finding full-time dentists to commit to the clinic is a challenge. In January 2007, proposals were submitted to the county for innovative programs for recruitment and retention of dental and medical professionals.

In relation to dental care for older adults, in 2003, the Orange County Master Aging Plan and the Orange County Health Department Dental Health Services Strategic Plan included the following objective: "Assure access to dental care for residents that are in Long Term Care Facilities, Assisted Living, Group Homes, Adult Day Care Centers and Nursing Homes in Orange County regardless of payer source, or level of functioning to quality dental services provided by professionals trained in geriatric dentistry, who are knowledgeable of and can accommodate those with special needs."⁴¹² Specific strategies outlined in the plan include assessing the availability of current medical, dental, and mental health providers in the community as indicated by Medicare/Medicaid patients' acceptance and number of providers and develop an action plan by the Department on Aging Wellness Program Council; develop a plan to fund mobile medical, dental, and mental health services to older adults in community settings that provides screening, education, basic counseling and care; and staff support (salary/benefits) for multicultural providers with interest in geriatric services; monitor progress of the fund and operation for necessary changes and assist Access Dental and identify participants for the program; and to request the Center for Public Service to identify resources such as Access Dental, Durham Technical Community College, dental hygiene techs, and the UNC Dental School.⁴¹³

⁴¹² Orange County Master Aging Plan 2000, Orange County Department on Aging

⁴¹³ Orange County Department on Aging, The Master Aging Plan Task Force. Orange County Master Aging Plan. Goals, Objectives, and Strategies For The Five-Year Period January 1, 2007 – December 31, 2011.

Lead agencies for these strategies are the Health Department, the Department on Aging, Piedmont Health Services, UNC Hospitals, the Department of Social Services, TJAAA Long Term Care Ombudsman Program, Nursing Home and Adult Care Home Community Advisory Committees and community dental and mental health providers.

The Federal Nursing Home regulations also require that a skilled nursing facility “must provide or obtain from an outside resource, routine and emergency dental services to meet the needs of each resident.” All nursing home residents in Orange County should receive an annual screening. (In Orange County, there are 575 nursing home beds, 401 adult care home beds and 18 family care home beds, for a total of 994 long term care facility beds.)⁴¹⁴

Two new groups have also been established to issues related to oral health. In 1999, the Regional Long Term Care Ombudsmen surveyed all long-term care facilities in North Carolina. From that survey it was determined that Region J consisting of Chatham, Durham, Johnston, Lee, Orange, and Wake counties had the greatest need for dental services of any other metropolitan area in our state. The survey showed a lack of resources in these counties to take care of the dental needs of long-term care residents. The shortage of dental care is particularly acute for residents relying on governmental assistance, 69% of them stated they had great or extreme difficulty accessing basic dental services. Residents needing emergency dental services also have an especially difficult time accessing care and experience long waiting periods for dental services.⁴¹⁵ As a result of these findings, a group was formed in 2001 to develop solutions to the provision of dental care for long-term care facility residents and may include the purchase of a mobile dental clinic to be shared between the various counties. That group continues to meet to explore options.

In August 2006, a dental systems change workgroup was formed to study the most effective ways that the state and others could deliver dental services to special care populations in North Carolina. To date, there are two bills in the Senate and one in the House. All of the bills have been sent to appropriations. House Bill 201 and Senate Bill 52 both allow for \$200,000 to expand dental services to the Triangle, Greenville or Asheville. Senate Bill 805 includes funds to support the operation of mobile dental programs with an evaluation component.

⁴¹⁴ Triangle J Area Agency on Aging--Ombudsman Program. Triangle J Council of Governments. Jill V. Passmore, Lead Regional LTC Ombudsman, 02/08/07.

⁴¹⁵ Regional Long Term Care Ombudsmen. Results of Dental Survey of Long Term Care Providers in Six North Carolina Counties. Pg 7.

CHAPTER 9: HEALTH ISSUES OF SPECIFIC

This chapter covers health issues related to specific age groups and populations that do not fit into the topic categories of other chapters. This chapter presents health issues predominantly by age groups. However, there are references to other chapters within the document in order to avoid redundancy.

The chapter contains the following sections:

A) Child Health

B) Adolescent Health

C) Reproductive Health

C1) Pregnancy

C1A. Pregnancy, Fertility, and Abortion

C1B. Initiation of Prenatal Care

C1C. Birthweight Distribution

C1D. Infant Mortality

C1E. Perinatal Mood Disorders

C1F. Post Partum Visits

C1G. Post Substance Use In and Around Pregnancy

C2) Cervical Cancer

C3) Areas in Need of Further Assessment

D) Men's Health

E) Older Adult Health

F) Health of Persons with Disability

A) Child Health

Healthy Carolinians 2010 objectives related to child health are:

There are no objectives related to child health in general, please see specific objectives related to children in chapters 4, 5, 6, 7, 8 and 11.

Impact

Good health during childhood sets the foundation for a healthy life. Provision of comprehensive child health services from infancy to adulthood is critical to insure that children remain healthy and become viable members of the community.

Contributing Factors

Access to adequate nutrition, well-child screenings, immunizations, and primary care all contribute to healthy children. Many factors can impact the health of children including whether family systems are supportive or dysfunctional and if children have access to health insurance and health care services. Poor living conditions and exposure to drugs or environmental contaminants can result in various childhood illnesses such as asthma. Children in the foster care system often suffer disproportionately from health problems.

Data

In 2006, there were 5,933 children 0 to 5 years and 6,028 children 6 to 9 years living in Orange County. The total number of children in Orange County has slightly decreased since the 2000 census, from 12,976 to 11,961.

Poverty

- During the 2006 American Community Survey, 9% percent of children under the age of 18 years lived in poverty in Orange County. Among families with children under 5 years old, 3% lived in poverty. Among families with children under 18 years, 8% lived in poverty.⁴¹⁶

Disabilities

- In 2006 Orange County had 99 children 0 to 3 years of age receiving Early Intervention services, 3% of the 0 to 3 year old population in Orange County.⁴¹⁷

Infant and Prenatal

- Conditions originating in the perinatal period and congenital anomalies (birth defects) were the top two causes of death in children 0-19 years of age in Orange County from 2001 to 2005, accounting for 30 deaths.⁴¹⁸
- Between the years 2001 –2005, Orange County had 8.7% of live births classified as low birth weight (\leq 5 lbs 8 oz) compared to 9.0 % of births in NC.⁴¹⁹
- White low birthweights during this time was 7.6% while minority low birthweights were 12.5%.⁴²⁰
- Total infant death rate was 7.8, white infant deaths accounted a rate 5.8 while the rate for minority infant deaths was 15.2.⁴²¹

⁴¹⁶ Action for Children, County Index Cards. Accessed November 2007 at

http://www.ncchild.org/images/stories/PDFs/CountyCards/county%20card_06_orange.pdf.

⁴¹⁷ "Community Level Information on Kids. Accessed November 2007at http://www.kidscount.org/cgi-bin/cliiks.cgi?action=rank_indicator&subset=NC&areatype=county.

⁴¹⁸ "2001-2005 Ten Leading Causes of Death by County of Residence and age Group"

<http://www.schs.state.nc.us/SCHS/data/databook/>

⁴¹⁹ NC Statewide and County Trends in Key Health Indicators: Orange County. Division of Public Health State Center for Health Statistics. <http://www.schs.state.nc.us/SCHS/data/databook/CD5%20LBW%20VLBW.html>

⁴²⁰ *ibid*

⁴²¹ *ibid*

- In this same time period, 8.8% of Orange County women smoked during pregnancy compared to 13.2% of pregnant women in NC.⁴²²

Injury

- Between 2001 to 2005 there were 11 deaths by motor vehicle injuries to Orange County residents 0-19 years of age (ranking 3rd cause of death)⁴²³.
- Suicide and SIDS were ranked the 4th cause of death for children 0-19 years of age in 2001-2005, accounting for 6 deaths in each category.⁴²⁴

Lead Screenings

- In 2006 Orange County was ranked 98th in NC for children 12 to 24 month of age receiving blood lead screenings (20.3 % of total residents screened; 36% of those with Medicaid). 1% of the children screened had an elevation of >10 micrograms per deciliter. Total tested was 550 compared to a target population of 2,708.⁴²⁵

Overweight

- 2% of children 2-4 years of age are underweight (<5th percent), 16.4% are overweight (> 95%) and 19.4% are at risk for obesity (≥85% but <95%).⁴²⁶
- In an opinion survey of NC parents when asked to what extent do you believe overweight in children is a serious problem?
- Children < 5, 36.7% of parents reported “very serious”, 38.2% indicated “serious”
- Children 5-10 years of age, 39.1% reported “very serious”, 38.9% indicated “serious”
- Children 11-13 years of age: 38.1% reported “very serious”, 40.3% indicated “serious” (therefore 78.4% of parents of children in this age group reported that they believed that overweight in children is a serious problem in their community).
- Among Hispanic respondents, 61.8% reported “very serious”, 27% indicated “serious” (88.8% they believed that overweight in children is a serious problem in their community)⁴²⁷

General Health

- When asked, “How concerned are you with you how he/she behaves?”
- Children <5, 24.6% were at least “a little concerned”
- Children 5-10 years; 38.7% of the parents reported they were at least “a little concerned”
- Children with special health care needs: 33.5% were at least a “little” concerned.⁴²⁸
- When asked, “What would you say that in general the health of the child is?”
- 2% white parents reported “fair” or “poor”
 - 4.1% African-American parents reported “fair” or “poor”
 - 9.9% Other minority reported “fair” or “poor”
 - 12.6 Hispanic parents reported “fair” or “poor”⁴²⁹

Please references chapters 4, 5, 6, 7, 8 and 11 for additional data on children.

Disparities

⁴²² *ibid*

⁴²³ <http://www.schs.state.nc.us/SCHS/data/databook/>

⁴²⁴ “2001-2005 Ten Leading Causes of Death by County of Residence and age Group”

<http://www.schs.state.nc.us/SCHS/data/databook/>

⁴²⁵ 2006 NC Childhood Blood Lead Surveillance Data. Prepared by the Children’s Environmental Health Branch. July 24, 2007.

⁴²⁶ NC Nutrition and Physical Activity Surveillance System. 2006.

⁴²⁷ Division of Public Health State Center for Health Statistics: CHAMP 2006

<http://www.schs.state.nc.us/SCHS/champ/2006/k23q05.html> 14 November 2007.

⁴²⁸ *ibid*

⁴²⁹ *ibid*

As minorities overall tend to have poorer access to health care, it stands to reason that minority children would also have poorer access to care. In addition, children of Spanish-speaking families also face the language barrier in accessing services. Children who are not citizens do not qualify for Medicaid, Health Choice or private insurance, and therefore access to non-emergent care is impacted. Substandard housing conditions and inadequate income levels may also contribute to health outcome disparities.

Community Survey Results⁴³⁰

The 2007 Community Health Assessment survey results indicate that 89% of respondents felt that Orange County was a good place to rear children, while 3% felt that it was not a good place to rear children, and 7% did not know. Of the survey respondents, 37% reported that they have children under the age of 18 years of age at home.

Resources

In Orange County we have made notable strides in increasing the number of children with access to health screenings, health insurance, dental care and immunizations. Many of the services children use are working hard to collaborate, and we can be proud of the efforts to provide comprehensive services to the families of young children through programs funded by the Orange County Partnership for Young Children and the many programs that provide social and medical support through the Orange County Health Department's Family Home Visiting Program. One such program is Child Service Coordination, a service that works with families to facilitate access to services for children at risk of developmental delay or with special needs. Another is the Intensive Home Visiting Program that works with high-risk families to prevent child abuse and neglect. All of these programs improve the outcomes of children and families in our community by connecting them with needed services and helping to improve parenting skills and family health.

The Health Check/Health Choice program begun in 1999 has also helped many more limited income families access health insurance for their children than could previously have afforded it. (See Chapter 4: Access to Health Insurance for more on this program.)

Gaps and Unmet Needs

There are still gaps in health services for children and many are mentioned in the previous chapters. In particular, residents and service providers worry that children with special needs may not be getting enough care. While community agencies like the Orange County Partnership for Young Children and the Orange County Health Department help coordinate screening, prevention, and early intervention services, children who do not receive early screenings may slip through the cracks and not be identified until elementary school or later. Once children are identified as having special needs, specific, targeted programs are available at little or no cost through federally and state funded efforts, but barriers impacting families such as transportation, language, and employment with inflexible time-off policies prevent some families from keeping their appointments. For those families, comprehensive wrap-around services that address both the children's health needs and the barriers preventing the family from accessing care are needed.

There is also concern about access to mental health services for children, and better meshing of services for children with developmental and behavioral problems to keep care

⁴³⁰ These data are from the Orange County Community Health Assessment survey conducted by the Orange County Health Department, April, 2007. See appendix for survey content.

continuous as children move from early intervention, to public schools, and finally on to adult or independent living.

Emerging Issues

Childhood obesity and early onset Diabetes are issues that have garnered much attention recently and are impacting the health of children. Multiple social, environmental and nutritional efforts are needed to address this burgeoning problem. Please see Chapter 5 for more on obesity.

It appears from the data, that health care providers in Orange County could be doing a better job of testing for lead in young children, especially among the population who are enrolled in Medicaid. Recent large scale recalls of children's toys may impact testing rates due to heightened public awareness.

B) Adolescent Health

Healthy Carolinians 2010 objectives related to adolescent health are:

There are several objectives specific to adolescents that can be found in the following chapters: Chronic Disease, Communicable Disease and Mental Health.

Healthy Carolinians 2010 objectives related to responsible adolescent sexual behavior are:

Increase the proportion of adolescents who abstain from sexual intercourse to 50.8%

In the 2007 Chapel Hill-Carrboro YRBS, 66.4% of high school students stated they had never had intercourse.⁴³¹ In 2006, 67% of Orange county Students reported never having sex.⁴³²

Increase the proportion of adolescents who use condoms, if currently sexually active to 75%

In the 2007 Chapel Hill-Carrboro YRBS, of the high school students who were sexually active, 22.4% reported using a condom at the last time they had intercourse.⁴³³ In 2006, 21% of Orange County students in the 6th, 8th, and 10th grades reported using condoms.⁴³⁴

Reduce the rate of unplanned pregnancies to adolescent females ages 10 to 19 years to 10 per 1,000 females ages 10 to 19 years

In 2005, Orange County had a rate of 21.5 pregnancies per 1,000 girls ages 15 to 19 years, as compared to 22.1 in 2004.⁴³⁵ According to the End-of-School Reports, 12 students in the Chapel Hill-city Schools and 14 students in the Orange County Schools were pregnant in the 2006-2007 school year.⁴³⁶

Impact

(Because many aspects of adolescent health are discussed in other chapters of this report, this section focuses mainly on responsible sexual behavior and adolescent pregnancy, issues that have not been discussed elsewhere.)

⁴³¹ High School Student Responses to the Youth Risk Behavior Survey, 2007, Chapel Hill-Carrboro City Schools

⁴³² 2006 Communities That Care Survey, Orange County Schools, 6th, 7th and 10th grades

⁴³³ Ibid

⁴³⁴ 2006 Communities That Care Survey, Orange County Schools, 6th, 7th and 10th grades

⁴³⁵ 2005 Pregnancy, Fertility and Abortion rates per 1,000 women ages 15-19 in NC and Orange County, NCDHHS, State Center for Health Statistics, County Health Data Book,

<http://www.schs.state.nc.us/SCHS/data/databook/>

⁴³⁶ 2006-2007 End-of-Year Report, Chapel Hill-Carrboro City Schools and Orange County Schools

Adolescence is a time of great change and a critical period for the development of a healthy individual. It can be a time of establishing the healthy, or unhealthy, behaviors that can affect people their entire lives.

Responsible sexual behavior among adolescents is a concern to many. Abstinence is encouraged as the best policy, but many teens still become sexually active at early ages, putting them at risk for unwanted pregnancies, sexually transmitted infections and emotional ramifications.

The consequences of adolescent pregnancy are grave. Teenage girls who become pregnant are more likely to drop out of high school, rely on government assistance, and give birth to babies who are premature and have lasting health problems. They also tend to have lower earning potential and subsequently live in poverty, and are more likely to abuse their children than women who wait until a later age to have their first child. North Carolina has the ninth highest teen pregnancy rate in the United States.

Contributing Factors

Eating and exercise habits, drug use and sexual behavior can all determine whether or not an individual will become a healthy or unhealthy adult. Positive social interactions, school involvement and sports participation can all help adolescents remain healthy mentally and physically.

Teens may become pregnant for a variety of reasons including lack of information about family planning services, as a result of being the child of a teen parent themselves, wanting to get out of a difficult home situation or simply a desire to have a child of their own. Education and information are crucial to preparing teens to make responsible and knowledgeable decisions.

Data

It is difficult to know if a teen pregnancy was planned or not and therefore hard to compare Orange County data to the Healthy Carolinians objective. With this in mind, we know that over 18,000 adolescents in North Carolina became pregnant in 2005, slightly decreasing the teen pregnancy rate for the state from 2004.⁴³⁷ The 2005 rate of teen pregnancy in Orange County for young women ages 15 to 19 years was 21.5 per 1,000 compared to the state rate of 61.7. Orange County continues to have one of the lowest teen pregnancy rates in the state. As in the past, only Watauga County, at 13.3 per 1,000, reported a lower rate than Orange. Despite this positive news, there were still 154 pregnancies among women 19 or younger in the year 2005. Of those, 92 carried the child to term, 63 had an abortion, and one pregnancy resulted in fetal death.⁴³⁸ Two of these pregnancies were in the 10 to 14 age group.

According to the 2007 Chapel Hill-Carrboro City Schools YRBS, 33.6% of high school students reported having sex, 9.6% of which had sexual intercourse for the first time when they were 13 years old or younger and 24.4% had sexual intercourse for the first time between the ages of 14 to 17 years. Of those who have had sexual intercourse, 14.3% have had only 1 partner, 11.9% have had 2 to 4 partners, and 6.9% have had 5 or more partners. 22.4% of students said they used a condom the last time they had sex, with condoms being

⁴³⁷ Ibid

⁴³⁸ Pregnancies by County, 2005, State Center for Health Statistics, County Data Book, <http://www.schs.state.nc.us/SCHS/data/databook/>

the most used method of birth control (15.9%), followed by birth control pills (8.6%) and then withdrawal (1.6%). 3.7% of students reported using “no method to prevent pregnancy.” Of those who have had sexual intercourse, 10.2% reported that they drank alcohol before the last time they had sexual intercourse.⁴³⁹

When asked, if they had ever been forced to have sexual intercourse when they did not want to, 9.5% of high school students responded “yes.” 66.3% of students said that they have had a parent or other adult in the family talk with them about what they expect them to do when it comes to sex.⁴⁴⁰

Results from the Chapel-Hill Carrboro City Schools YRBS, cannot be generalizable to students across the County. Need to have more complete set of data on students across the county in order to identify areas of concern regarding adolescent sexual behavior.

Disparities

There are significant disparities that exist between whites and minorities related to adolescent birth outcomes. On a national, state, and local level, minority teens are more likely to display such antecedents for teen pregnancy as higher rates of poverty, higher unemployment levels, higher school dropout rates, and lower education levels.

Minority teens in Orange County are almost three times more likely to become pregnant than Caucasian teens. For Hispanic teens, the problem is even greater. More than half of Latina females nationwide will give birth before age 20. Latina females have the highest rate of teen pregnancy in North Carolina at 175.7 per 1,000, with this rate being well above the national average of 82.6. Orange County is no different for this subgroup. Approximately 171.7 per 1,000 Latina females became pregnant in 2005. Latina females comprised less than three percent of all 15-19 year olds in Orange County, yet made up 22% of all teen pregnancies in the County in 2005.⁴⁴¹ Table 9B-1 demonstrates this trend.

Geographic Region	Total Pregnancies		Rate per 1,000		African American Rate per 1,000		Hispanic Rate per 1,000	
	2004	2005	2004	2005	2004	2005	2004	2005
State of NC	18,143	18,259	62.4	61.7	86.9	85.3	174.2	175.7
Northeast Perinatal Care Region (includes Orange County)	3,144	3,257	51.8	51.9	72.7*	71.3*	---	---
Orange County	160	154	22.1	21.5	20.3	18.2	198.9	171.7

⁴³⁹ Youth Risk Behavioral Surveillance System, 2007 Chapel Hill-Carrboro City Schools.

⁴⁴⁰ Ibid

⁴⁴¹ Personal communication from Kristi Page, MSW, Director of Adolescent Programs, The Women's Center, Chapel Hill, NC

Table 9, B-1: Pregnancy, Fertility and Abortion Rates per 1,000 Women Ages 15-19 in NC, the Northeast Perinatal Region and Orange County, 2005⁴⁴² (*Rates show minority teen pregnancy rates and are not specific to African-Americans.)

Community Survey Results⁴⁴³

As part of the 2007 Community Health Assessment survey, residents were asked to review a list of social concerns and choose which three they felt were the most important social issues in Orange County. As the graph below illustrates, risky behaviors of teens ranked third among the most frequently cited, with 35% of respondents indicating they felt it was one of their top three concerns. The previous Community Health Assessment (2003) used focus groups as a way to get community input. Residents and teens noted that sexual activity leading to pregnancy is sometimes unwanted, and so the collaboration between those agencies dealing specifically with teen pregnancy and those involved family and partner violence, crime and substance abuse is appropriate and necessary.

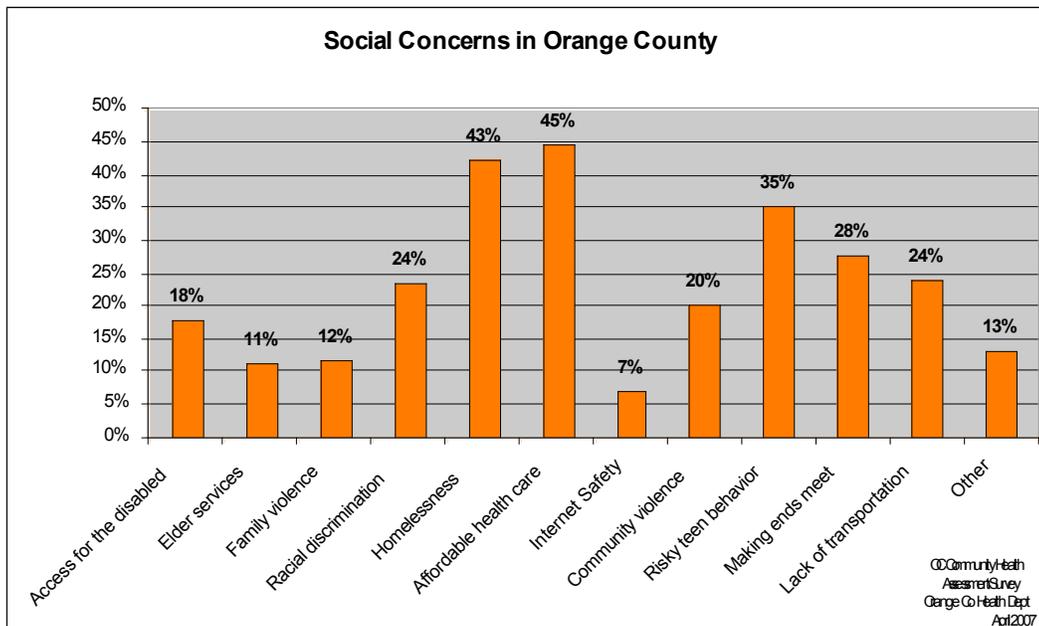


Figure 9, B-1: Responses to the survey question, “Which of these things stand out for you as important social issues in Orange County? Choose three.”

Resources

- Adolescent Pregnancy Prevention Coalition of NC (APPCNC)—advocacy for teens, parents, and service providers
- Planned Parenthood of Central NC – education and prevention programs for high school boys and girls, as well as pregnancy and STI testing for teens
- Adolescent Parenting Program—holistic services for parenting teens in Orange County, operated through Orange County Health Department in Hillsborough
- Teens Climb High, Women’s Center of Chapel Hill – an empowerment program for middle school girls from low-income families in Chapel Hill and Carrboro

⁴⁴² Pregnancy, Fertility and Abortion rates per 1,000 women ages 15-19 in NC and Orange County, 2005, NCDHHS, State Center for Health Statistics, County Health Data Book
<http://www.schs.state.nc.us/SCHS/data/databook/>

⁴⁴³ These data are from the Orange County Community Health Assessment survey conducted by the Orange County Health Department, April, 2007. See appendix for survey content.

Gaps and Unmet Needs

Greater access to early education about abstinence, healthy sexuality, and pregnancy prevention for adolescents is needed in Orange County to prevent unwanted and unplanned pregnancies. Teens Climb High, mentioned above, targets middle school girls in an effort to address the consequences of sexual activity before it starts. More comparable early education programs are needed.

The disparities that exist also suggest a greater effort should be made to reach out to minority teens with this information.

Emerging Issues

House Bill 879, the bill that seeks to bring Abstinence Based Comprehensive Sexuality Education to North Carolina was filed on March 16, 2007. Introduced on March 20, 2007 by Rep. Susan Fisher, Rep. Linda Coleman, Rep. Maggie Jeffus and Rep. Melanie Wade Goodwin along with 20 co-sponsors, the bill would require public schools to offer comprehensive, medically accurate, non-discriminatory sexuality education in grades seven and eight, and once in high school. This would replace the “abstinence only” curriculum. The bill passed its first hurdle on May 1, 2007, when it passed the NC House Health Committee and was referred to the House Committee on Education. There has been no further action on the bill as of this writing.

C) Reproductive Health

After discussion, the 2003 report’s maternal and child health section was expanded to a chapter on reproductive health. Our goal was to broaden its scope to include the reproductive health issues of all residents of Orange County. We hope this year will be a transition year in addressing the charge to the reproductive health committee. As such, it is expected that the work of the committee will set the foundation for future data collection and meaningful recommendations for all county residents.

C1,A) Pregnancy, Fertility, and Abortion

Healthy Carolinians 2010 Objectives related to pregnancy, fertility and abortion are:

There is no Healthy Carolinians 2010 Objective related to pregnancy, fertility and abortion.

Data

	Pregnancy		Fertility		Abortion	
	Rate	Number	Rate	Number	Rate	Number
NC 2002	79.5	143,891	64.8	117,211	14.3	25,841
NC 2005	82.2	151,588	66.9	123,040	15.0	27,674
OC 2002	54.6	1871	39.5	1353	14.7	505
OC 2005	54.9	1,778	42.5	1,377	12.2	394

Table 9-C1, A-1: Pregnancy, Fertility, and Abortion Rates per 1,000 for Women Ages 15 to 44 in North Carolina and Orange County, 2002 and 2005⁴⁴⁴

	Pregnancy Rate			Fertility Rate			Abortion Rate		
	Total	White	Minority	Total	White	Minority	Total	White	Minority
NC 2002	79.5	74.6	90.4	64.8	65.4	63.3	14.3	8.9	26.4
NC 2005	82.2	77.2	89.9	66.8	67.8	64.1	15.0	9.0	25.0
OC 2002	54.6	47.9	77.9	39.5	37.9	46	14.7	9.6	31.4
OC 2005	54.9	49.3	69.8	42.5	41.4	46.8	12.2	7.9	22.4

Table 9-C1, A-2: Pregnancy, Fertility, and Abortion Rates per 1,000 for Women Ages 15 to 44 by Race in North Carolina and Orange County, 2002 and 2005⁴⁴⁵

Progress/Impact

Orange County had 1,377 live births in 2005, a slight increase (1.8%) compared to 2002 data used in the last community health assessment. This compares to a 5% increase in the number of live births in all of North Carolina over the same period of time. Despite this slight increase in live births in Orange County, there was a 5% decrease in the number of pregnancies and a 22% decrease in the number of abortions while there was a slight increase in pregnancy and birth rates for women ages 15 to 44 years. For all three indicators, the rates were consistently lower in Orange County than at the State level.

Disparities

Just as in the 15 to 19 year age group, disparities are apparent between whites and minorities, particularly in the pregnancy and abortion rates. The abortion rate is 2.8 times higher for minorities and the pregnancy rate about 1.4 times higher. The actual birth rate is only 1.1 times higher. Since 2002, this gap has slightly narrowed, but additional work needs to be done to help the women included in this “minority” category prevent unintended and unwanted pregnancies.

Resources

Residents of Orange County have a variety of low-cost options to obtain methods for family planning including Carrboro Community Health Center (CCHC), Orange County Health Department in Chapel Hill and Hillsborough, and Planned Parenthood of Central North Carolina in Chapel Hill. Most methods of birth control are available at all these sites. Family planning services can also be obtained at UNC Women’s Hospital.

The new Family Planning Medical Waiver “Be Smart” is a good opportunity for people to obtain assistance to pay for family planning services and contraceptive methods. This waiver makes Medicaid for family planning services available to women 19 to 55 years and men 19 to 60 years with income up to 185% of federal poverty level. Unfortunately, this Medicaid waiver is not accessible to the women and men of the county who do not meet the residency requirements.

⁴⁴⁴ State Center for Health Statistics. Accessed on August 15, 2007 at www.schs.state.nc.us/SCHS

⁴⁴⁵ Ibid.

Recommendations

Comparable data in terms of race is only available in the categories of “white” and “minority” which does not provide an accurate picture of health for these groups. The Latino population has grown tremendously in the state, and it is 5.2% of Orange County’s total population. In addition, new immigrant groups have started to move into Orange County, including Burmese refugees. Disaggregating the “minority” data into more useful population groups is important to plan for appropriate services for these populations.

Healthy Carolinians 2010 Objectives related to unplanned pregnancies are:
Reduce the rate of unplanned pregnancies to adolescent females ages 10 to 19 per 1,000 (related objective)

Data

	Pregnancy Rate			Fertility Rate			Abortion Rate		
	Total	White	Minority	Total	White	Minority	Total	White	Minority
NC 2002	64.1	53.6	87.3	49	42.6	63.9	14.6	10.8	22.7
NC 2005	61.7	50.9	82.3	47.0	40.9	60.6	14.3	9.8	21.0
OC 2002	23.1	15.3	53.6	12.4	8.2	29.9	10.4	6.7	23.7
OC 2005	21.5	16.4	38.6	12.8	10.8	21.0	8.5	5.6	16.8

Table 9-C1, A-3: Pregnancy, Fertility, and Abortion Rates per 1,000 for Women ages 15-19 by Race in North Carolina and Orange County, 2002 and 2005⁴⁴⁶

Progress/Impact

The pregnancy rate for this age group in Orange County continues to be significantly lower than the State rate and lower than 2002. In the county, the overall adolescent pregnancy rate decreased from 23.1 to 21.5 and the rate for minorities decreased from 53.6 to 38.6. Major decreases in fertility rate and abortion rate among minorities was also seen: from 29.9 to 21.0 and 23.7 to 16.8, respectively. While these rates are good indications of progress, disparities continue to exist.

Disparities

Although pregnancy and birth rates for Orange County are low compared to the State level, there are clear disparities when comparing rates between whites and minorities. These two rates are 2.4 and 1.9 times as high, respectively, for minority young women than white young women. The abortion rate for minority teens is three times higher, 16.8 compared to 5.6. Improvements have been made since 2002, but continuing adolescent pregnancy rates and disparities indicate a strong need for providing medically accurate and age-appropriate comprehensive sex education to all young women and men. Exploring possible barriers to obtaining family planning methods and other issues that lead to disproportionate rates of pregnancy, fertility, and abortion is important.

Resources

Non-Clinical Prevention Services

- DSS Adolescent Parenting Program

⁴⁴⁶ Ibid.

- The Women’s Center, Teens Climb High
- Planned Parenthood’s *Teen Talk* and *Joven a Joven*, peer educator programs in English and Spanish
- Chapel Hill-Carrboro Schools Blue Ribbon Mentor Advocate Program (although not specifically focused on pregnancy prevention it works to help students set long-term goals)
- Adolescents in Need serving high risk students at Orange High School

Clinical Services

- UNC OB/Gyn Teen Clinic
- Orange County Health Department
- Carrboro Community Health Center

Orange County has 3 abortion providers

- UNC Hospitals
- Planned Parenthood of Central NC (up to 20 weeks)
- Eastowne OB/GYN and Infertility

State law requires women under 18 years old to have parental consent or seek a judicial bypass in order to have an abortion. Planned Parenthood can provide information about the process for judicial bypass. Public funding is also available for abortion only in cases of life endangerment, rape or incest. Planned Parenthood has a Justice Fund to help women who need an abortion and do not have the resources.

Recommendations

Vital statistics reports pregnancies for adolescent’s ages 15 to 19 years; it is important that trends in younger adolescents be monitored carefully. Anecdotally, it appears that more and more Latina teenagers are arriving in the area who are unaccompanied by a parent. Without a parent, these teenagers are unable to enroll in school and other social support programs that can provide support and information to delay a(nother) pregnancy. It is essential to gather information to understand if these anecdotes are based in fact and, if so, to find ways to link these adolescents to social supports and pregnancy prevention programs. Clinical services are available to this population at the Carrboro Community Health Center (CCHC) and the Health Department. Approaches are needed to work with this community in a culturally competent manner and to provide information about spacing of children and correct use of contraceptives. It is also important to provide community alternatives to give young women options to create futures other than childbearing.

Healthy Carolinians 2010 Objectives related to unplanned pregnancies ages 10 to 19 are:

Reduce the rate of unplanned pregnancies to adolescent females ages 10 to 19 per 1,000 (**related objective)

Data

	North Carolina			Orange County		
	Pregnancy (Rate)	Birth (Fertility)	Abortions (Rate)	Pregnancy (Rate)	Birth (Fertility)	Abortions (Rate)

		Rate)			Rate)	
Total	2322 (1.6)	1370 (0.9)	924(0.6)	17* (1.0)	4**(0.2)	12 (0.7)
White	844 (0.9)	535(0.5)	300(0.3)	4 (0.3)	2 (0.2)	2(0.2)
African American	1344 (3.3)	794(1.9)	533(1.3)	8 (2.6)	2 (0.7)	5(1.6)

Table 9-C1, A-4: Pregnancy, Fertility and Abortion Rates per 1,000 Females Ages 10-14 by Race, 2001- 2005⁴⁴⁷

* 6 pregnancies to Hispanics

** 1 birth to Hispanic

Progress/Impact

The data available for this age group is limited and was only made available in an aggregated format for the years 2001-2005, due to the small number of cases. As a result, it is difficult to draw any conclusions. The pregnancy and birth rates for the 10 to 14 year age group in Orange County for the period 2001-2005 are lower than the State's, although the abortion rate is slightly higher.

Studies show that very early conception can be a marker for serious social stresses in the child's life such as exposure to community violence, witnessing parental violence, physical abuse within the family and sexual coercion. The impact of early pregnancy may include the inability to properly care for a child, dropping out of school and numerous pregnancies while still an adolescent.

Disparities

Disparities between racial groups may exist, but with such small numbers it is difficult to draw any conclusions. The birth and abortion rates were almost 4 times higher among African-American girls than White girls at the state level.

Resources

Non-Clinical Prevention Services

- DSS Adolescent Parenting Program
- Chapel Hill-Carrboro Schools Blue Ribbon Mentor Advocate Program (although not specifically focused on pregnancy prevention, means to provide students with help to set long-term goals)

Recommendations

Unfortunately teen pregnancies are starting at younger ages, so it is important to monitor data for children ages 10 to 14 years. Pregnancy prevention programs to work with this younger population are also important. Additionally, resources for parents to talk with their children about sexuality should be made available, and pediatric providers should be encouraged to discuss issues of sexuality with male and female clients as they reach puberty. It will also be important to continue to support the opt-out status in order to provide comprehensive sex education in Chapel Hill-Carrboro Schools and expand to the other school system in the county.

C1,B) Initiation of Prenatal Care

Healthy Carolinians 2010 Objectives related to prenatal care are:

Increase the proportion of pregnant women who receive care beginning in first trimester of pregnancy to 90%

⁴⁴⁷ Ibid.

Data

Race/Ethnicity by Age	None	1 st Trimester	2 nd Trimester	3 rd Trimester	Unknown	Total
All births	11 (<.01)	1210 (.88)	127 (.09)	24 (.017)	5 (<.01)	1377
White						
All	7 (.01)	948 (.89)	91 (.09)	15 (.01)	2 (<.01)	1063
<18 years old	0	9 (.56)	6 (.38)	1 (.06)	0	16
African Americans						
All	4 (.02)	151 (.78)	28 (.14)	8 (.04)	3 (.02)	194
<18 years old	0	2 (.5)	2 (.5)	0	0	4
Other Races						
All	0	111 (.93)	8 (.07)	1 (.01)	0	120
<18 years old	0	1 (.33)	1 (.33)	1 (.33)	0	3
Hispanic						
Black- all	0	3 (1)	0	0	0	3
Black <18 years	0	0	0	0	0	0
White-all	0	165 (.76)	45 (.21)	6 (.03)	1 (.01)	217
White <18 years	0	5 (.5)	4 (.4)	1 (.1)	0	10

Table 9-C1, B-1: Initiation of Prenatal Care in Orange County, 2005⁴⁴⁸

Progress/Impact

Eighty-nine percent of whites compared to 93% of other races initiated care in the first trimester. However, the numbers are less encouraging for those under the age of 18 at 56% and 50% respectively.

Comparison data from 1997-2004 revealed that 15.5 % of women were entering into prenatal care AFTER the 1st trimester or were not entering prenatal care at all. North Carolina State Center for Health Statistics noted in 2004 that 76.5% of all women continuing their pregnancies were beginning prenatal care within the 1st trimester. Disparities are apparent based on age and race/ethnicity: first trimester care was accessed by women under age 20 (55.9%), blacks (67%) and Hispanics (52%).

Resources

Prenatal Care providers
 Orange County Health Department
 UNC Hospitals
 Piedmont Health Services

Recommendations

It is important to encourage pregnant mothers to receive prenatal care early and continue throughout pregnancy. Preconception information should be incorporated into well-woman visits/annual examinations of all women capable of becoming pregnant. Additionally, pregnant mothers should receive education about prenatal care and pregnancy outcomes.

C1,C) Birthweight Distribution

Healthy Carolinians 2010 Objectives related to low birth weight are:

Reduce low birth weight to 7% of live births

⁴⁴⁸ Ibid.

Data

Race/Ethnicity by Age	0-500 gms	501-1500gms	1501-2500gms	2501-8165gms	Unknown	Total
All births	4 (<.01)	20 (.02)	88 (.06)	1265 (.92)	0	1377
White						
All	1 (<.01)	14 (.01)	64 (.06)	984 (.93)	0	1063
<18 years old	0	0	2 (.13)	14 (.89)	0	16
African Americans						
All	3 (.02)	6 (.03)	17 (.09)	168 (.87)	0	194
<18 years old	0	0	0	4 (1)	0	4
Other Races						
All	0	0	7 (.06)	113 (.94)	0	120
<18 years old	0	0	0	3 (1)	0	3
Hispanic						
Black- all	0	0	0	3 (1)	0	3
Black <18 years old	0	0	0	0	0	0
White-all	0	0	9 (.04)	208 (.96)	0	217
White < 18 years old	0	0	0	10 (1)	0	10

Table 9-C1, C-1: Birth Weight Distribution in Orange County, 2005⁴⁴⁹

Progress/Impact

Babies born under 2500 grams are considered low birth weight. Based on the small number of cases, it is important to be cautious in interpreting the impact of low birth weight. However, the data available indicates that the Whites, Hispanics and other races are meeting Healthy Carolinians Objectives for low birth rate. Hispanics have the lowest low birth rate at 4%, followed by White and other races at 6%, then African Americans at 9%. An overall (All Births) improvement in low birth weight rate was recorded between 2000-2004 (9%) and 2005 (6%).

Disparities

African Americans have the highest rate of low birth weight at 9% and very low birth weight rate of 3% in Orange County. Additionally, Whites under the age of 18 years have a low birth weight rate of 13%.

Recommendations

Need to continue monitoring data to compare trends overtime. It could also be helpful to monitor assisted-reproductive technologies across providers.

C1,D) Infant Mortality

Healthy Carolinians 2010 Objectives related to infant mortality are:

Reduce infant deaths within the first year of life to 7.4 per 1,000 live births

In Orange County for the period 2002 to 2002, the infant death rate was 6.9 deaths per 1,000 live births.⁴⁵⁰ (Infant deaths are those which occur between birth and one year of age.)

Reduce neonatal mortality to 5.9 deaths per 1,000 live births

⁴⁴⁹ Ibid.

⁴⁵⁰ Infant Death Rates per 1,000 Live Births, 2001-2005, NC SCHS County Databook, <http://www.schs.state.nc.us/SCHS/data/databook/>

In Orange County for the period 2001 to 2005, the neonatal death rate was 5.5 deaths per 1,000 live births.⁴⁵¹ (Neonatal deaths are those which occur from birth to 28 days of life; neonatal deaths are included in the total for infant deaths.)

Progress/Impact

The rate of infant and neonatal deaths have remained relatively steady since the 1997-2001 period at approximately 7.6% and 5.4% per 1,000 live births respectively. While the county rate for infant deaths and neonatal deaths meets the Health Carolinians objectives and are below the state average of 8.5 and 5.9 respectively, it is important to continue to try to reduce these rates.

Contributing Factors

Many factors contribute to healthy pregnancies and birth outcomes. The number of prenatal visits, time of gestation of the first prenatal visit, length of gestation, age of the mother, spacing between pregnancies, access to adequate nutrition, and substance abuse including smoking all can affect whether or not a child will be born healthy. Racism and poverty can also lead to poor birth outcomes as minority and low-income women may be unable to access adequate prenatal care and family planning. Stress can also cause poor birth outcomes as women may develop health problems during pregnancy due to stress. Domestic violence also has an impact, with studies showing an increase in domestic violence between couples during pregnancy.

Disparities

There are significant disparities that still exist between whites and minorities related to birth outcomes. Many believe this may be attributed to higher rates of poverty and less access to services, as well as too many other factors inherent in living in an environment and a system of care that continues to exhibit discrimination against minorities, whether intended or unintended. There remain significant disparities in Orange as well. During the period of 2001-2005, the infant death rate for whites in Orange County was 5.8 per 1,000 live births, as compared to 15.2 for minorities.⁴⁵² During that same time frame, the neonatal death rate for whites in the county was 4.4 per 1,000 live births, whereas among minorities it was 9.6.⁴⁵³

Resources

Prenatal Care providers
Orange County Health Department
UNC Hospitals
Piedmont Health Services

Recommendations

Emphasize importance of early and continuing care; introducing importance of earliest days and weeks of pregnancy on pregnancy outcome through preconception care and including preconception information in the well-woman visits/annual examinations of all women capable of becoming pregnant.

⁴⁵¹ Neonatal (28 Days - 1 Year) Death Rates per 1000 Live Births, 2001-2005, NC SCHS County Databook, <http://www.schs.state.nc.us/SCHS/data/databook/>

⁴⁵² Infant Death Rates per 1,000 Live Births, 2001-2005, NC SCHS County Databook, <http://www.schs.state.nc.us/SCHS/data/databook/>

⁴⁵³ Neonatal (28 Days - 1 Year) Death Rates per 1000 Live Births, 2001-2005, NC SCHS County Databook, <http://www.schs.state.nc.us/SCHS/data/databook/>

C1,E) Perinatal Mood Disorders

Healthy Carolinians 2010 Objective related to perinatal mood disorders are:

There is no Healthy Carolinians goal related to perinatal mood disorders.

	TOTAL	PP Psychosis
US	15-20%	.5-1%
NC	unknown	unknown
Orange County	unknown	unknown

Table 9-C1, E-1: Perinatal Mood Disorders, North Carolina/Orange County

Progress/Impact

Perinatal mood disorders are caused primarily by hormonal changes which then affect chemicals in the brain. There are several forms of perinatal disorders including depression, anxiety, obsessive-compulsive disorder, panic disorder and psychosis. The "Baby Blues" occur in about 80% of mothers, and are not considered a perinatal disorder. Every member of the family and all the relationships within the family are affected by perinatal disorders. Over time, untreated perinatal disorders can have a significant negative impact on children's wellbeing. While it is unknown how many mothers suffer from perinatal disorders in NC or Orange County, it is important to identify pregnant and postpartum women with perinatal mood disorders and refer for services.

Disparities

Women who previously suffered from postpartum depression are more at risk of perinatal disorders during and after subsequent pregnancies. There are also some studies that report depression rates as much as twice as high for women in poverty.

Resources

UNC Psychiatry Dept. (Perinatal Mood Disorders Clinic)
OPC Mental Health providers within the community

Recommendations

Develop a data collection system to accurately track the extent of the problem in the County. Improve identification, referral and treatment services for pregnant and postpartum women, and develop system to provide routine screening for perinatal mood disorders using an approved tool for all pregnant and postpartum women with ability to refer for services

C1,F) Post Partum Visits

Healthy Carolinians 2010 Objectives related to post partum visits are:

There is no Healthy Carolinians 2010 Objective related to post partum visits.

Progress/Impact

Nationally, 80.3% of those with commercial plans and 55.3% of those with Medicaid receive their postpartum exam. The exam is important for follow-up of general health problems, detecting postpartum depression and discussing, initiating, and monitoring family planning decisions. No data exists on utilization of this visit by those who are self-pay.

Disparities

Disparities in payment status exist in utilization of postpartum exams.

Resources

Prenatal Care providers

Family Planning providers

Recommendations

Need to develop better system to track data on post partum visits. Particularly, it is important to determine if women attending local health department are receiving post partum visit but coded as family planning visit resulting in undercounting utilization. Tracking visits could also help determine assess and utilization of services in uninsured populations.

**C1,G) Post Substance Use In and Around Pregnancy
Healthy Carolinians 2010 Objectives related to post substance use in and
around pregnancy are:**

Reduce cigarette smoking before pregnancy to 12.5% and among pregnant women to 7%. Reduce alcohol use among women prior to becoming pregnant to 19% and among women during pregnancy to 0.6%

Data

	Tobacco	Alcohol	Illicit Drugs
North Carolina	14% ⁴⁵⁴	13.5% ⁴⁵⁵	Unknown
Orange County	Unknown	Unknown	Unknown
U.S.	12-20% ⁴⁵⁶	10% ⁴⁵⁷	2.8% ⁴⁵⁸

Table 9-C1, G-1: Substance Use In and Around Pregnancy North Carolina/Orange County

Progress/Impact

Data specific to substance abuse in and around pregnancy for women in Orange County is unknown. However, nationally, women’s use (NOTE: any use) of illicit drugs is 6.4%,⁴⁵⁹ tobacco use is 18%⁴⁶⁰ and alcohol use is 52.6%.⁴⁶¹

Abuse by pregnant women of tobacco, alcohol, cocaine, cannabis and other illicit drugs has been associated with low birthweight, spontaneous abortion, fetal alcohol syndrome, and preterm delivery. Children born to substance abusing women can be impaired with birth defects and growth deficiencies and can experience developmental problems. Barriers to treatment for substance abusing mothers includes fear of the loss of their child(ren), difficulty in finding child care while in outpatient treatment, and lack of support in leaving their child behind with family while they enter residential treatment.

⁴⁵⁴ NC PRAMS Survey, 2002-2004. Available from:

URL:<http://www.schs.state.nc.us/SCHS/prams/2002to2004/State/SMKCONT.html>

⁴⁵⁵ NC PRAMS Survey, 2002-2004. Available from: URL:

http://www.schs.state.nc.us/SCHS/prams/2002to2004/State/DRKCH_PG.html

⁴⁵⁶ National Partnership for Smoke-Free Families. Facts About Smoking and Pregnancy. [Internet Site.]

[Accessed 08 Jul 2007.] Available from: URL:<http://www.helppregnantmokersquit.org/vp/channels/facts.aspx?re>

⁴⁵⁷ Centers for Disease Control and Prevention (CDC). Alcohol consumption among women who are pregnant or who might become pregnant--United States, 2002. MMWR Morb Mortal Wkly Rep. 2004 Dec 24;53(50):1178-81.

⁴⁵⁸ Ebrahim SH, Gfroerer J. Pregnancy-related substance use in the United States during 1996-1998. Obstet Gynecol. 2003 Feb;101(2):374-9.

⁴⁵⁹ Ibid.

⁴⁶⁰ Centers for Disease Control and Prevention (CDC). Tobacco use among adults--United States, 2005. Morb Mortal Wkly Rep. 2006 Oct 27;55(42):1145-8. Cited in: Tobacco Information and Prevention Source. Adult Cigarette Smoking in the United States: Current Estimates. Fact sheet, November 2006. [Accessed 10 Dec 2006.] Available from:

URL:http://www.cdc.gov/tobacco/factsheets/AdultCigaretteSmoking_FactSheet.htm

⁴⁶¹ Centers for Disease Control and Prevention (CDC). Alcohol consumption among women who are pregnant or who might become pregnant--United States, 2002. MMWR Morb Mortal Wkly Rep. 2004 Dec 24;53(50):1178-81.

Resources

UNC Department of Ob/Gyn Horizons prenatal clinic provides outpatient treatment program and the Sunrise residential treatment program.

UNC Psychiatry Department, Alcohol and Substance Abuse Program (ASAP) provides outpatient treatment.

Freedom House

Recommendations

Need to develop a better data collection system for alcohol and illicit drug use among pregnant women in NC and Orange County. Additionally, an objective should be added to the Healthy Carolinians 2010 goals to reduce illicit drug use among pregnant women to 2%.

In regards to service, all prenatal histories should include screenings for tobacco, alcohol, illicit and prescribed drugs and abuse, and every provider in the county should use the “5 A’s” for smoking cessation for pregnant women.

C2) Cervical Cancer

Healthy Carolinians 2010 Objectives related to cervical cancer are:

Reduce cervical cancer death rate

Target: 2.0 deaths per 100,000 population.

Baseline, 1996-1998: 3.4 cervical cancer deaths per 100,000 population (age adjusted to the year 2000 U.S. standard population).

Data

Year	North Carolina	Orange County
2005	138	1
2004	111	0
2003	104	0
2002	113	0

Table 9-C2, 1: Cervical Cancer Deaths by Year, 2002-2005

North Carolina	All Whites		All Minorities		Total	
	Deaths	Rate	Deaths	Rate	Deaths	Rate
2005	90	2.5	48	4.6	138	2.9
2004	70	1.9	41	4.0	111	2.4
2003	71	2.0	33	3.3	104	2.3
2002	75	2.1	38	3.8	113	2.5

Table 9-C2, 2: Cervical Cancer Deaths by Race and Year, 2002-2005

County	White Females		Minority Females	
	CASES	RATE	CASES	RATE
Orange	9	3.9	6	10.2
North Carolina	1,194	7.2	529	10.6

Table 9-C2, 3: Cervical Cancer Incidence 2000-2004**

**The count for 2004 is very small and SCHS does not give out numbers less than 5 for confidentiality reasons. Therefore, the SCHS reported the aggregate data only.

Progress/Impact:

Because the cancer incidence is reported in the aggregate and the number of cervical cancer cases is so small, it is difficult to determine if there has been any change over time or how significant the problem is. However, the data shows that Orange County has lower rates of cervical cancer than the state rate.

Disparities

Orange County's cervical cancer incidence rates are much lower than the state averages for white women. However, among minority women the incidence rate is in line with the state's rate. This data suggests that more targeted efforts need to be made to minority women for early detection of cervical cancer.

Resources

Pap exams available at private family planning providers and community providers including the Orange County Health Department, Piedmont Health Services, Planned Parenthood of Central North Carolina and UNC.

Planned Parenthood of Central North Carolina and the UNC Dysplasia Clinic offer services such as Colposcopy and Loop Electrosurgical Excision Procedure, to treatment cervical abnormalities that many lead to cervical cancer.

Recommendations

Need to track data for all minorities not reported in aggregate so that specific disparities can be identified.

Physicians and patients should follow the American Cancer Society guidelines regarding pap exams and there is a need to educate and provide information to parents and adolescent females about HPV and the new HPV vaccine.

Also, need to address the financial barriers for women who are diagnosed with cervical cancer but may not have the resources necessary for treatment.

C3) Areas Needing Further Assessment**Gay, Lesbian, and Bisexual Health**

While no data was found at the county or state level (other than a 1985 report that documented significant discrimination in North Carolina),⁴⁶² Healthy People 2010 has a companion document on gay and lesbian health at the national level.⁴⁶³ Nationally, clear disparities have been well documented in surviving violence⁴⁶⁴ and tobacco usage,⁴⁶⁵ among others.^{466,467} National studies also indicate that providers' offices do not appear "safe" enough

⁴⁶² Jolly DH. The North Carolina lesbian and gay health survey: Final Report. Jun 1985. Durham: North Carolina Lesbian and Gay Health Project.

⁴⁶³ Gay and Lesbian Medical Association and LGBT health experts. Healthy People 2010 Companion Document for Lesbian, Gay, Bisexual, and Transgender (LGBT) Health. San Francisco, CA: Gay and Lesbian Medical Association, 2001. Available from: URL:<http://www.lgbthealth.net/downloads/hp2010doc.pdf>

⁴⁶⁴ D'Augelli AR, Grossman AH, Starks MT. Childhood gender atypicality, victimization, and PTSD among lesbian, gay, and bisexual youth. *J Interpers Violence*. 2006 Nov;21(11):1462-82.

⁴⁶⁵ Ryan H, Wortley PM, Easton A, Pederson L, Greenwood G. Smoking among lesbians, gays, and bisexuals: a review of the literature. *Am J Prev Med*. 2001 Aug;21(2):142-9.

⁴⁶⁶ Halperin EC. Why a special issue of the North Carolina Medical Journal on gay and lesbian medicine? *N C Med J* 1997 Mar-Apr;58(2): 90-1.

to gay men and lesbian women to disclose identity.⁴⁶⁸ Further work should include adding sexual orientation to Healthy Carolinians objective number two (“Remove health disparities among the disadvantaged”). Other recommendations include: including questions about sexual orientation to health intake questionnaires at provider offices, provider sensitivity trainings, and identifying barriers to access of care for the gay, lesbian, bisexual and transgender population.

Community Survey Results⁴⁶⁹

Because of the broad scope of the 2007 Community Health Assessment survey, the questions regarding health concerns did not target reproductive health issues specifically. However, some of the results are indeed relevant to this chapter.

For example, residents were asked to review a list of social concerns and choose which three they felt were the most important social issues in Orange County. Risky behaviors of teens ranked third among the most frequently cited, with 35% of respondents indicating they felt it was one of their top three concerns. Affordable health care access was the most frequently chosen topic of concern, selected by 45% of respondents, and this issue is most certainly relevant to the subject of reproductive health. A similar list of health concerns was presented to survey participants. Several of those concerns bear on reproductive health as well, particularly lack of health insurance, drug and alcohol abuse, tobacco use, and illnesses spread by people (includes STD’s). See graphs below for details.

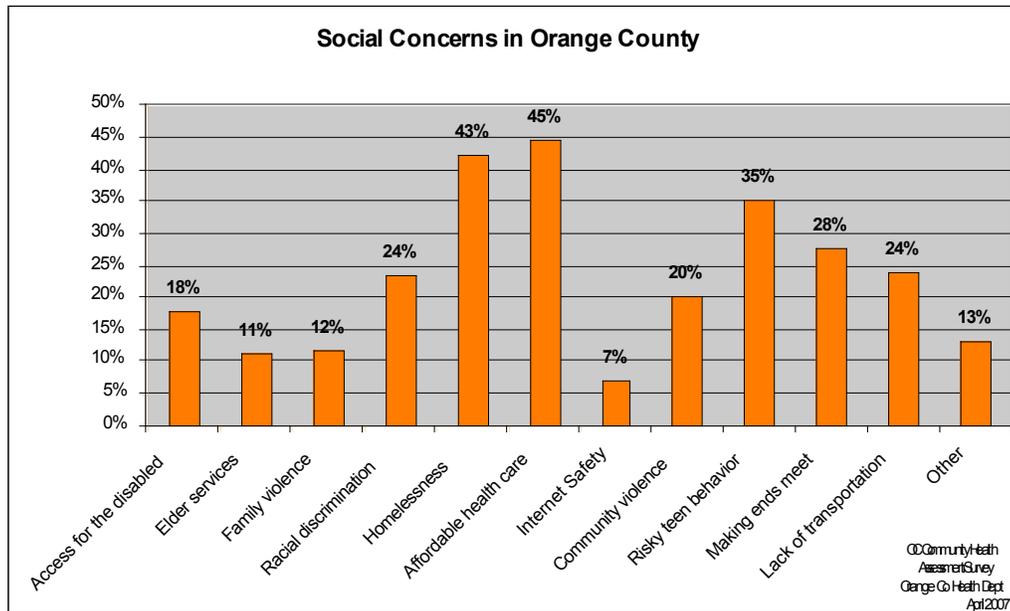


Figure 9-C3, 1: Responses to the survey question, “Which of these things stand out for you as important health issues in Orange County? Choose three.”

⁴⁶⁷ Meyer IH. Why lesbian, gay, bisexual, and transgender public health? [Editorial]. Am J Public Health 2001 Jun;91(6):856-9.

⁴⁶⁸ Meckler GD, Elliott MN, Kanouse DE, Beals KP, Schuster MA. Nondisclosure of sexual orientation to a physician among a sample of gay, lesbian, and bisexual youth. Arch Pediatr Adolesc Med. 2006 Dec;160(12):1248-54.

⁴⁶⁹ These data are from the Orange County Community Health Assessment survey conducted by the Orange County Health Department, April, 2007. See appendix for survey content.

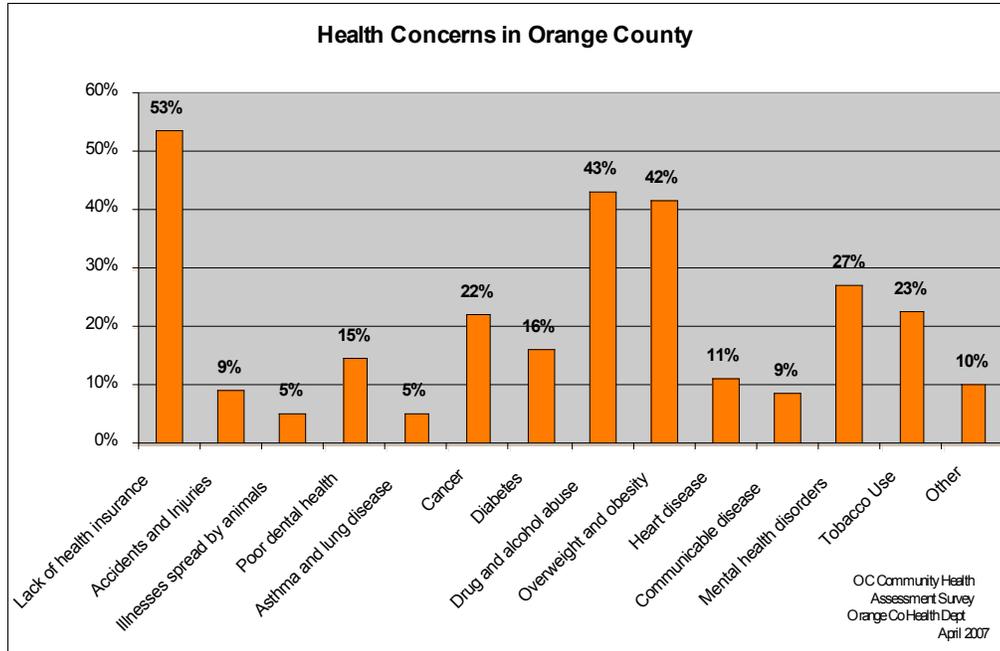


Figure 9-C3, 2: Responses to the survey question, “Which of these things stand out for you as important health issues in Orange County? Choose three.”

As mentioned above in Section C1A, community violence, family violence and/or abuse and sexual violence are believed to be factors that contribute to the rate of adolescent pregnancy. Although residents in general feel that Orange County is a safe place to live (86% of those surveyed agreed with this statement), the graph below shows that over half of those surveyed felt that all of the types of violence we asked about were either somewhat of a concern or a major concern. However, the number of residents who do not know if these types of violence are a problem is of concern. Raising awareness is the first step in addressing an issue, and there is clearly an opportunity to increase awareness about the subject of violence in the Orange County community.

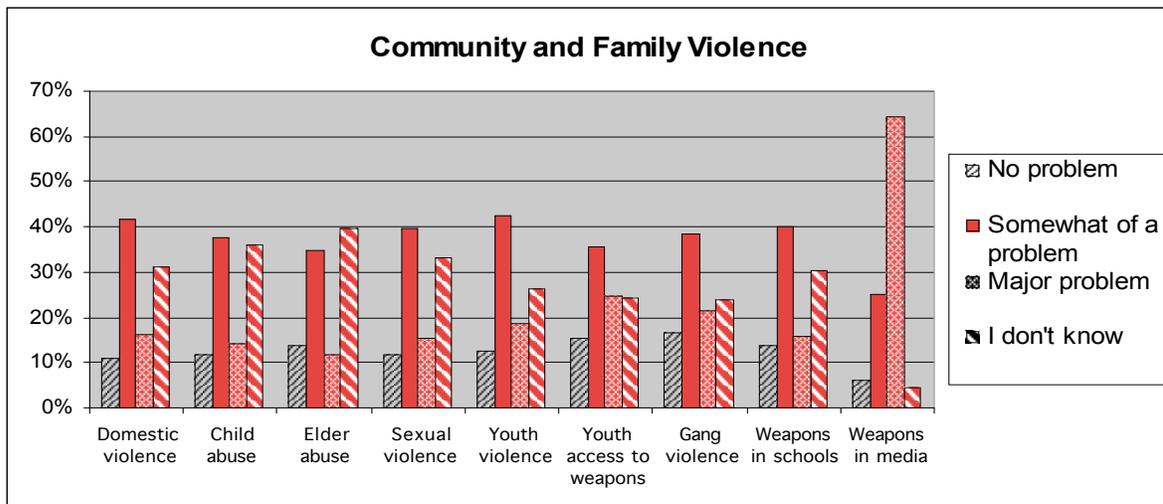


Figure 9-C3, 3: Responses to the survey question, “I’ll ask you about several kinds of violence, please tell me if you think it is not a problem, somewhat of a problem, major problem, or if you don’t know whether it is a problem or not. Remember this is a question about the community where you live, not necessarily about you and your family.”

D) Men's Health

The Healthy Carolinians 2010 objectives for men's health are:

There are no objectives specifically for men's health.

Impact

Men are less likely than women to get preventive care, including dental care, and to take advantage of screening and early detection programs. Minority and low income men are even less likely to do so. Without the advantages these programs offer, men's health continues to be at greater risk than that of their female counterparts.

Contributing Factors

As with other population groups, there are a complex set of factors that impact men's health, and it is sometimes difficult to isolate them. As mentioned above, men do not access preventive services as often as do women, and young men in particular demonstrate this tendency. Access to health insurance, though, is certainly a significant barrier to seeking preventive care services. Screening and prevention behaviors are "positively associated with increasing income" across all age groups and ethnicities.⁴⁷⁰

Data

FirstHealth of the Carolinas, as part of the Community Voices program, released a North Carolina Men's Health Report Card in early 2007. There is a wealth of data that, although not county specific, is indicative of the condition of men's health throughout the state. The report card is available online, so the reader can obtain more detail by visiting the communityvoices.org website.⁴⁷¹ The report features two ways of looking at data for a number of health issues and indicators. It provides trending over time within North Carolina and it compares North Carolina data to US data. A grading system is applied to both measures, and is the same one used for the Women's Health report card, so the two reports can be compared to each other in a meaningful way. Some of the worst "grades" for North Carolina in comparison to the US were in cerebrovascular disease deaths, lung cancer deaths, and chronic lower respiratory disease deaths, as well as motor vehicle deaths. North Carolina also received an "F" in health insurance coverage. While the US average is 20.6%, fully 25% of men ages 18 to 65 years in North Carolina were without health insurance coverage at the time of the report. It should be pointed out that, with the exception of the health insurance coverage trend, which has worsened over time, the number in deaths per 100,000 men due to the above causes has decreased over time. Areas of concern in terms of trending over time are obesity, diabetes, high cholesterol, infectious diseases, and incarceration rates. BRFSS data for Orange County for this same time period showed a somewhat better picture than for the state overall in the areas of diabetes, obesity, high cholesterol and access to health insurance (19.6% of Orange County males report no health insurance).⁴⁷² It should be noted, however, that county level data is often based on relatively small numbers of survey respondents, so the actual results may not compare as favorably to state averages as may appear.

⁴⁷⁰ A Man's Dilemma: Healthcare of Men Across America: A Disparities Report, Community Voices, September 2004, http://www.communityvoices.org/Uploads/Mans_Dilemma_00108_00085.pdf

⁴⁷¹ www.communityvoices.org, <http://www.communityvoices.org/Article.aspx?ID=404>, accessed September 4, 2007

⁴⁷² NC SCHS. BRFSS 2005 Survey Results for Orange County, Health Care Access, <http://www.schs.state.nc.us/SCHS/brfss/2005/oran/topics.html#hca>

The most recent county level data, the 2006 BRFSS, shows that of those who had not seen a doctor for a routine check-up in more than two years, they were more often men (24%) than women (9.2%). In addition, while 69.4% of Orange County women have been screened for diabetes, only 52.3% of men have taken the test.

Disparities

Men have higher death rates than women for all of the top ten causes of death in the United States, and minority males have much higher death rates than white males. The disparity is particularly striking among poor men of color. "Multiple factors are associated with these differences including, low socioeconomic status (SES), low educational attainment precarious employment, and cultural norms and practices, to name a few."⁴⁷³

Community Survey Results

The questions used for the 2007 Community Health Assessment survey were not specific to men's health. See various other chapters for applicable information.

Resources

Many health resources that are available in the county are provided to both men and women, however, agencies such as the Health Department often focus primarily on women and children. A grant through UNC in partnership with the Orange County Health Department and the Efland-Cheeks area enabled the community to provide health education and prevention information to minority males. The project, entitled MAN (Men as Navigators) for Health, works to address the male gender socialization and organizational barriers that discourage men from seeking health care services. The initial funding, which ended in March 2007, was for the purpose of prostate cancer prevention. However the program has been successfully funded in order to continue using Men as Navigators for improving the health of other men. A new three year grant will be starting up in September 2007, titled "The Black Church and CVD: Are we our Brother's Keeper?" The focus will be on improving cardiovascular health among African-American men in the community.

In the spring of 2004, Orange County partnered with El Centro Latino and Planned Parenthood of Central North Carolina to coordinate a Latino Men's Health Promotion training called the Health Ambassadors or "Embajadores de Salud." El Centro also worked with the Health Department on a second training of Ambassadors in the northern part of the county in 2005.

FirstHealth of the Carolinas (FirstHealth) is a not-for-profit health system serving a largely rural 15-county area in the mid-Carolinas. FirstHealth is concerned by the growing evidence that the health status of men in the United States is sharply deteriorating, as compared to women. In addition to collaborating on the 2007 Men's Health Report Card, they published an edition of FirstHealth magazine on men's health, featuring additional information on the report card as well as other articles.⁴⁷⁴

Gaps and Unmet Needs

⁴⁷³ Reducing Health Disparities and Poor Men: Interventions that Work, National Assn. of Public Hospitals and Health Systems, Community Voices, <http://www.communityvoices.org/Article.aspx?ID=411>, accessed September 4, 2007

⁴⁷⁴ FirstHealth Magazine Online, <http://www.firsthealth.org/Newsroom/FirstHealth%20Magazine/current/index.htm>, accessed September 4, 2007

The data suggest that more prevention education and screening services should be targeted towards males, and in particular minority males, in order to lower the morbidity and mortality rates due to chronic disease and injuries.

Emerging Issues

Because chronic disease is more common in people as they age, and the population on a whole is aging, more prevention education needs to be done to encourage not only healthier lifestyles among people of all ages, but also to encourage men to seek preventive health care at earlier ages and with greater frequency than they currently do.

More attention is being focused on men's health at the federal level. "On May 8, 2003, Senator Michael Crapo (R-ID) introduced Senate Bill 1028, 'Men's Health Act of 2003.' This legislation would establish an Office of Men's Health within the Department of Health and Human Services for the purpose of promoting men's health in the United States."⁴⁷⁵ Still, the establishment of this office has not yet occurred, although there continues to be support for re-introducing the bill.⁴⁷⁶ Whereas 39 states had an Office of Women's Health as of 2003, only six states had a corresponding Office of Men's Health. David Price, the congressman from the 4th district representing Orange County, is a co-sponsor of the OMH legislation.

E) Older Adult Health

Healthy Carolinians 2010 Objectives related to older adults are:

Increase the numbers of North Carolinians who, at the end of their life, use hospice and other palliative care services by 25 percent

UNC Hospice served 93 Orange County residents and Duke Community Hospice served 228 Orange County residents in fiscal year 2006-2007⁴⁷⁷

Increase the number of adults over age 65 who have incomes at least at the federal poverty level

The 2006 American Community Survey reported that 7.8% or 907 adults age 65 and over live below the poverty level.⁴⁷⁸

Increase spending for Home and Community-Based Care services as a proportion of total long-term care spending to 25% of total long-term care funding

Increase the percentage of older adults that have access to safe, decent, affordable and accessible assisted living facilities

In Orange County 525 beds are occupied of the 595 total available as of the end of September 2007 (many of the nursing homes also have adult care home beds included under their nursing home license).

Impact

As the population of Orange County ages at a faster rate than ever before (estimated to almost double by 2020 from 17,000 to 33,000), the issues related to the health and well-

⁴⁷⁵ Establishing an Office of Men's Health, Community Voices, http://www.communityvoices.org/Uploads/Ofc_of_Mens_Health_00108_00041.pdf

⁴⁷⁶ OMH Resource Center, <http://www.menshealthoffice.info/index.htm>, accessed September 4, 2007

⁴⁷⁷ Personal communication with Ms. Kirkman at UNC Hospice and Loretta Matters at Duke Community Hospice on October 23, 2007.

⁴⁷⁸ 2006 American Community Survey. Accessed on October 22, 2007 at: http://factfinder.census.gov/servlet/ADPTable?_bm=y&-geo_id=05000US37135&-qr_name=ACS_2006_EST_G00_DP5&-ds_name=ACS_2006_EST_G00_&-_lang=en&-_sse=on

being of older adults will increase. As individuals age, chronic disease becomes more prevalent, and issues related to long-term care for the elderly become more critical. Advancements in medicine, pharmacological therapies, public health, and technology will make it even more commonplace to live to 80, 90, 100 or more years.

While many seniors are living longer there is one characteristic that will affect their ability to remain independent and stay in their own homes: functionality. According to the US Census Bureau, Approximately 42% of the 65+ age group has some kind of disability (a long-lasting physical, mental, or emotional condition). This condition can make it difficult for persons to do activities such as walking, climbing stairs, getting dressed, bathing, learning or remembering.

With the increase in longevity there have been major increases in two social issues: an increase in nursing home placements with age (18.2% of the US 85+ age group resides in a nursing home), and an increase in the incidence of Alzheimer's disease (AD) in the same population group. When looking at dementia, the broader diagnosis, in the 85+ category the numbers are estimated to be over 50% of the population. From diagnosis to death, the range of care needed for those with AD is from 3 to 20 years. The financial and emotional impact on caregivers can be devastating. Medical advances have enabled us to live longer, but chronic care services remain fragmented, inappropriate, and difficult to obtain.

Older adults with limited mobility require some form of assistance, such as family care givers, in-home aides, continuing-care retirement communities, assisted living facilities, or homes where they can live and access services comfortably. Most of the continuing-care retirement communities are too expensive for lower to middle income older adults. Furthermore, research has found that when older adults are forced to move to unfamiliar surroundings, many become much less active and less social, therefore significantly affecting their overall physical and mental well-being.⁴⁷⁹

There are major social health forces that shape the physical and mental health of seniors in our county. Seniors who are isolated or have few social supports are less likely than their more socially connected counterparts to access available services, and their isolation can contribute to poor health if it means that they are not accessing important preventive and interventional health care. The most isolated seniors also tend to be poor, and poverty is an additional barrier to services for many seniors. In Orange County, the majority of seniors are subscribers to Medicare, but gaps in that program's long-term care coverage, and drug coverage, mean that seniors with limited financial means must often choose between economic hardship and good health. Choosing between purchasing medication and making an important payment for something such as rent or heat is a true reality for some of the seniors in our county. The Medicare Prescription Drug plan (Part D) has alleviated some of the drug coverage issues, but has lead to other issues for those unable to pay for medications during the "donut hole" or coverage gap. The "donut hole" could also add to a decrease in medications for some, this could be a concern depending on the need, and lead to increased health care utilization and costs.

In relation to end of life care, Healthy Carolinians 2010 states that despite federal and state laws that establish this right, completion of advance care directives is infrequent, and their use by health care personnel is erratic. Nursing home and rest home personnel care for many dying elders but have limited training to prepare them to provide comprehensive end of

⁴⁷⁹ Healthy Carolinians 2010, North Carolina's Plan for Health and Safety, Report of The Governor's Task Force for Healthy Carolinians. PG 167

life care to residents and their families. Palliative care is essential for maintaining health and the highest possible quality of life for the terminally ill, their families, and their caretakers.⁴⁸⁰

The fiscal well-being of the older adult population bears a direct correlation to physiological well-being, good mental health, and the overall quality of life. Without adequate financial resources, the physical and mental health of the older adult population will decline.⁴⁸¹

Contributing Factors

The risk of chronic disease increases with age as the natural aging process takes its toll on the major organ systems of the body such as heart, lungs and bones. In addition, the risk of various cancers increases with longer exposure to cancer-causing toxins such as smoking and other environmental exposures.

Ineffective care at the end of life can include families lacking information about care for terminally ill family members, under-utilization of hospice services and long-term care facility providers not being trained to provide comprehensive end of life care.

Various factors can affect the financial status of older adults including lack of continued working income due to downsizing or disabilities that prohibit working, the cost of prescription medications, escalating tax payments and a lack of pensions, savings and retirement programs.

Older adults on fixed incomes, who lack family and social support and access to services due to cost or unavailability will have difficulty managing expenses and self care as they age. Those most at risk for not accessing available resources include those who often times do not trust medical or social services. In particular, because of a history of racism and discrimination, some minority seniors do not trust the medical system and warrant very intensive trust-building efforts so that they feel welcome in the healthcare setting.

Data

The 2006 American Community Survey reported there to be 6,162 people aged 65 to 74 years old and 2,749 individuals over the age of 75 residing in Orange County for a total of 11,632 adults 65 years or older living in Orange County.⁴⁸² The over 65 population in Orange County is expected to grow to 23,840 by the year 2020.⁴⁸³

In 2005, the leading causes of death for people over age 65 were cancer was the leading cause of death followed by heart disease, cerebrovascular disease, chronic obstructive pulmonary disease, Alzheimer's disease, diabetes, pneumonia and influenza.⁴⁸⁴

As of the 2006, 7.8% of older adult's ages 65+ living in Orange County were classified as living in poverty. This is down from the 10.5% classified as living in poverty in 2002.⁴⁸⁵

⁴⁸⁰ Healthy Carolinians 2010

⁴⁸¹ Ibid

⁴⁸² 2006 American Community Survey. Accessed on October 22, 2007 at:

http://factfinder.census.gov/servlet/ADPTable?_bm=y&-geo_id=05000US37135&-qr_name=ACS_2006_EST_G00_DP5&-ds_name=ACS_2006_EST_G00_&-_lang=en&-_sse=on

⁴⁸³ 2002 US Census Bureau Quick Facts

⁴⁸⁴ NC State Center for Health Statistics. Leading Causes of Death in Orange County, North Carolina 2005 by age group.

⁴⁸⁵ 2002 Orange County Profile: N.C. Division on Aging – Population Projections: N.C. Office of State Budget, planning, and management- State Demographics

Disparities

As mentioned earlier in this report, older people suffer disproportionately from chronic disease and minorities in this group have higher rates of all of the chronic diseases than do whites.

Lower-income older adults have access to fewer services than those with higher-incomes; this includes access to quality health care, transportation, housing, and proper nutrition.

Community Survey Results

The 2007 Community Health Survey did not ask questions specific to older adults. However, during 2006, the Orange County community worked with the Department on Aging staff to develop the Master Aging Plan, a guide for services, planning and development for senior adults in 2007-2011. The plan calls for specific goals, action objectives, and strategies. Citizens' input and community agency involvement were critical to the development of the plan and will be vital to the implementation as well. In the plan, there are nine overall goals that address community concerns about age-related issues. The goals are:

- Goal A: Information/Access- Enhance information & assistance options for all older persons and their families who need access to services, especially those most in need.
- Goal B: Housing/Shelter- Promote an adequate supply of safe, affordable, and suitable housing options for older residents to age in place.
- Goal C: Transit/Mobility- Enhance mobility options for all older adults regardless of functionality through a multi-module component of functioning levels that is acceptable, efficient, effective and affordable.
- Goal D: Transitional Care- Promote the transition and maintenance of older persons in the most appropriate social or health care provider setting.
- Goal E: Well-Fit Older Population- To Improve and/or Maintain the Health and Well-being of Orange County's Present and Future Well-Fit Older Adults.
- Goal F: Disabled/Moderately Impaired Older Population – Maximize the safety, functional ability, and quality of life for impaired, community-dwelling older persons and their family caregivers.
- Goal G: Institutionalized/ Severely Impaired Older Population- Improve services, information access, education and outreach to long term care residents and families/caregivers that are affordable, accessible and that promote quality of life through person-centered care. This includes the retention, recognition and training of paid facility staff, thereby improving quality and continuity of care for residents.
- Goal H: Legislation/Advocacy- Promote a legislative/advocacy Aging Agenda that supports Orange County's Bill of Rights for Older Persons.
- Goal I: Planning/Administration- Enhance the planning, administration, coordination and funding of a response system to the changing needs of Orange County's older persons.

Resources

The Department on Aging in Orange County provides a broad array of services to older residents through various programs at two senior center locations and two community centers in the county. A Community Resource Guide has been developed, and is updated every two years and available to the public in print and on the county's website to aid citizens in finding resources.

Gaps and Unmet Needs

While the new Medicare prescription drug coverage for seniors has alleviated the burden for some it continues to present challenges and difficulties for others. It is difficult for many seniors to know which prescription plan to choose. There is still a need for advocacy in conjunction with national groups, or by forging a local solution, to help all the seniors that need prescription drugs be able to afford them. The other large gap in senior services is that there is not enough culturally sensitive outreach to seniors who are isolated completely from many forms of social and healthcare support. Finally, social isolation is exacerbated by transportation difficulties. While many praise services like Orange Public Transportation and EZ-Rider for helping seniors access resources, others noted that it is not easy for seniors in the Northern and more isolated parts of the county to access public transportation services, and this difficulty probably contributes to isolation.

More residential services for the aging population are still needed in Orange County to accommodate the growing numbers of seniors. In home services, assisted living, adult day care and the full spectrum of living arrangements that are possible for older adults to live a good quality of life will need to be expanded.

Emerging Issues

Since the aging population is expected to grow more quickly than other sectors of the population over the coming decades, and according to the Orange County Master Aging Plan, within the over 65 age group, the old-old, (those over 85) will begin to grow more quickly than any other portion of the 65 and over population. This will have a significant impact on how and what services are required. The diversity of needs amongst the members of the 65+ population will be great. No longer will “services for seniors” be a catch-all; services will need to be differentiated based on health, economic, geographic, racial and ethnic components of the 65+ population.⁴⁸⁶

The growth in the over 65 population in Orange County is due to the convergence of two demographic trends - more seniors are moving here to retire, and, nation-wide, the population of ‘baby boomers’ moving into its senior years. As the population grows, services will need to expand to meet already existing needs in transportation, prescription coverage, assistance in the home and combating isolation, and will need to expand to meet the needs of a larger and more diverse community of senior citizens.

F) Health of Persons with Disability

Healthy Carolinians Objectives related to disabilities are:

Increase the proportion of adults with disabilities reporting sufficient emotional support to 73.9 percent

No county specific data was identified; however, state level data was identified from the NC Behavioral Risk Factor Surveillance System 2005.⁴⁸⁷ Only 43.9% of persons with disabilities reported having adequate emotional support compared to 54.7% of those without disabilities.

Increase the proportion of adults with disabilities reporting satisfaction with life to 96.8 percent

Again, only statewide data is available, and indicated that only 32.7% of persons with

⁴⁸⁶ Orange County Master Aging Plan: Orange County Department on Aging 05/15/07

⁴⁸⁷ State Center for Health Statistics. NC Behavioral Risk Factor Surveillance System. 2005 Annual Survey.

disabilities reported being satisfied with their life compared with 51.2% of those without disabilities.⁴⁸⁸

Although only two objectives specifically target persons with disabilities, all of the goals and objectives outlined in the Healthy Carolinians 2010 are relevant to persons with disabilities.

Impact

According to Healthy Carolinians 2010, disability is an issue that affects every individual, community, neighborhood, and family in North Carolina, either directly or indirectly. Increasingly, surveys are basing the definition of disability on limitations in daily activities such as working at a job, walking, seeing, hearing, self-care such as eating, bathing, and toileting, or going outside the home alone.⁴⁸⁹ A person is considered to have a disability if he/she needs help to perform the activity, uses assistive equipment, or requires standby help. Disabilities are numerous and different in nature and form. Some are present from birth such as spina bifida, cerebral palsy or Down syndrome, while others may occur later in life such as with arthritis or a spinal cord injury. Some disabilities, such as muscular dystrophy and cystic fibrosis, are progressive. Some are episodic, as in seizure conditions, while other disabilities can be both episodic and progressive as in the case of multiple sclerosis. Some disabilities happen in an instant, such as the loss of a limb or a traumatic brain injury. Some disabilities are visible, while others, like hearing loss or epilepsy, are not visible.

Many individuals also have developmental disabilities. Developmental disabilities are defined in NC as a severe, chronic disability which: 1) is attributable to a mental or physical impairment or combination of mental and physical impairments; 2) is manifested before the person attains age 22, unless the disability is caused by traumatic head injury and is manifested after age 22; 3) is likely to continue indefinitely; 4) and results in substantial functional limitations in three major life activities such as self care, mobility, self direction, capacity for independent living.⁴⁹⁰ Unfortunately, many persons with disabilities are often discriminated against and underserved in many aspects of society.

Disability is a natural part of the human experience that does not diminish the right of an individual to enjoy the opportunity to live in and contribute to the mainstream of American society.

According to the Disability and Health State Chartbook⁴⁹¹ and the 2005 NC Behavioral Risk Factor Surveillance System⁴⁹², the health of people with disabilities is often not as good as that of people without disabilities. People with disabilities often experience health disparities and barriers to healthcare. Maintaining good health is important for all people, especially for people with disabilities who may have a smaller safety net regarding their health. Sometimes it can be more challenging for a person with a disability to live a healthy lifestyle. For example, people who use wheelchairs may not have as many options for physical activity or a person who is deaf may not be able to communicate with his or her doctor. Public health professionals and people with disabilities must work together to remove barriers to

⁴⁸⁸ Ibid.

⁴⁸⁹ Healthy People 2010. <http://www.healthypeople.gov/>, retrieved January 28, 2007

⁴⁹⁰ North Carolina Council on Developmental Disabilities. <http://www.nc-ddc.org/>, retrieved January 20, 2007.

⁴⁹¹ Centers for Disease Control and Prevention. Disability and Health State Chartbook 2006.

<http://www.cdc.gov/ncbddd/dh/chartbook/>, retrieved February 2, 2007

⁴⁹² State Center for Health Statistics. NC Behavioral Risk Factor Surveillance System. BRFSS 2005 Annual Survey Results. <http://www.schs.state.nc.us/SCHS/brfss/2005/index.html>, retrieved January 8, 2007

healthcare and health promotion.⁴⁹³ People with disabilities have the potential to lead healthy and productive lives if given the opportunity to attain good health and fully participate in all aspects of community life.

Contributing Factors

Congenital (at birth) disorders, injury, environment, premature birth, illness, chronic disease, genetics and aging all contribute to the occurrence of disabilities. As one ages, the incidence of disability increases.

Data

- In North Carolina, 28% of people 18 years or older reported having a disability as compared to 19.5% in Orange County. Overall, Orange County reporting the lowest rate of disability of all 100 counties in the state.
- Disability occurs amongst all races and ethnic groups in North Carolina, with Native Americans reporting the highest occurrence of disability at 42.4%, followed by African Americans at 33.5%, Hispanics at 28%, and Caucasians at 27.2%. Asians report the lowest prevalence of disability at 14.2%.⁴⁹⁴
- The rate of disability in North Carolina increases with age. Of people ages 35 to 44 years, 20.3% report having a disability; for those ages 45 to 54 years, the rate increases to 30.1%; and for those 55 to 54 years, 38.8% report having a disability.
- According to Marc Roth at the Arc of Orange County, the Orange Person Chatham Local Management Entity reports there are approximately 430 persons with developmental disabilities living in Orange County.⁴⁹⁵
- According to the Chapel Hill and Carrboro Schools, there are 1067 classified as Exceptional Children (EC) in K-12.
- According to the 2007 Chapel Hill-Carrboro YRBS, 11.4% of middle school students and 13.8% of high school students reported having a disability (either physically, mentally, emotionally, or communication-related). Furthermore, 10% of middle school and 9.4% of high school students indicated that they are limited in activity because of an impairment, and 12.2% of middle school students and 13% of high school students reported trouble remembering, learning or concentrating because of an impairment.⁴⁹⁶
- In 2006 Orange County had 99 children 0 to 3 years of age receiving Early Intervention services, 3% of the 0 to 3 year old population in Orange County.⁴⁹⁷

Disparities

Healthy Carolinians 2010 reports that disparity issues related to disability are complex. People with disabilities, like other groups which have been historically disadvantaged, have higher rates of unemployment, lower incomes, lower educational attainment, fewer living options, accessibility barriers, and face an ongoing struggle for inclusion. Although the Americans with Disabilities Act (ADA), enacted in 1990, was created to reduce many of these barriers, full implementation has not yet been realized.

⁴⁹³ Centers for Disease Control and Prevention. National Center for Birth Defects and Developmental Disabilities. <http://www.cdc.gov/ncbddd/>, retrieved Feb 15, 2007

⁴⁹⁴ State Center for Health Statistics. NC Behavioral Risk Factor Surveillance System. BRFSS 2005 Annual Survey Results. <http://www.schs.state.nc.us/SCHS/brfss/2005/index.html>, retrieved January 8, 2007

⁴⁹⁵ Email from Marc Roth, The Arc of Orange County, January 3, 2007

⁴⁹⁶ Youth Risk Behavioral Survey, 2007, Chapel Hill-Carrboro City Schools

⁴⁹⁷ "Community Level Information on Kids" http://www.kidscount.org/cgi-bin/cliiks.cgi?action=rank_indicator&subset=NC&areatype=county. 14 November 2007.

Persons with disabilities often struggle to navigate the resources available in our community, including medical treatment, employment, and transportation, to name a few. Additionally, persons with disabilities often experience discrimination and a lack of support from some sectors of our community that impedes their efforts to access needed resources. Finally, the high cost of living in our community has a direct impact on their lives. Many persons with disabilities are unemployed or under employed or rely on disability benefits as a primary income source. This combined with the high costs of living in Orange County and sparse independent housing options make economic survival a constant challenge.

People with disabilities often encounter significant structural, financial, attitudinal, information and communication barriers that limit their access to healthcare and health-related activities. Those with disabilities who are also elderly, members of minority groups, or who live in rural areas face additional barriers. Structural barriers, such as the lack of accessible transportation, buildings, and medical equipment are a major concern for many people with disabilities. People with disabilities may also face financial barriers in accessing services including obtaining affordable insurance that does not restrict or exclude coverage of needed services and medical equipment. Some health care providers do not accept patients on Medicaid, a health insurance program for many persons with disabilities. Other barriers, including attitudes, knowledge, information and communication can influence access to health-related opportunities for people with disabilities. Consumers report that many health care providers seem to have little training about disability and often focus on their disability rather than deal with critical primary care and preventive care issues. Health information is not typically targeted towards persons with disabilities. People with disabilities may experience communication barriers that require accommodations such as alternate formats (adapting the print size), lower reading level, providing sign language interpreters or assistive listening devices. Often these accommodations are not available.

With the complexity of barriers that persons with disabilities face, numerous health disparities have been recognized for persons with disabilities in North Carolina, as documented in the table below. Disability data has been gathered from the Behavioral Risk Factor Surveillance System 2005 and 2004 (*indicates 2004 data).⁴⁹⁸ Table 9F-1 illustrates the differences in health problems for people with disabilities as compared to those without disabilities and the state level. In addition, specific disparity data for Orange County is noted throughout this document.

Behavior/Condition	All NC %	Disability %	No Disability %
Physically inactive	18	29	14
Diabetes	8.5	18	5
Hypertension	29	45	23
Cardiovascular disease (history of)	9	21	4
Arthritis diagnosis from MD	27	53	7
Obesity	26	33	23
Dissatisfied or very dissatisfied with life	5	12	3

⁴⁹⁸ State Center for Health Statistics. NC Behavioral Risk Factor Surveillance System. BRFSS 2004 & 2005 Annual Surveys. <http://www.schs.state.nc.us/SCHS/brfss/2005/index.html>, retrieved January 15, 2007

Rarely get enough emotional support	4	8	3
Never have serving of fruit/day	3.3	4.4	3
* Oral Health (seen a dentist in past 12 months)	68	58	72
* Mammography screening in past year	63	58	66

Table 9-F, 1: Comparison of Health Problems Broken Down by State Level, Individuals with Disabilities and Without Disabilities.

Health disparities or population-specific gaps in the presence of disease, health outcomes, or access to health care occur for several reasons, including low income, age, gender, race, disability, ethnicity, educational level, geographic location and/or sexual orientation. For example, persons with disabilities tend to have much lower household incomes than persons without disabilities. According to the NC BRFSS, only 22% of persons with disabilities report having an income of \$35,000 to \$49,000, compared to 79% of persons without disabilities. In the table above, numerous health disparities are identified for persons with disabilities in NC. While some health disparities may exist for unavoidable reasons, such as health problems that are genetically related, causal factors for other disparities can be lessened. These findings support the need for continued efforts to reach the Healthy Carolinians objectives for all residents, including those with disabilities:

Community Survey Results

As part of the 2003 Orange County Community Health Assessment, resident focus group interviews were conducted. Concerns expressed addressed an array of life domains, including physical activity, transportation, access to healthcare, and assistive technology. These concerns still remain within the disability community. Selected comments included the need for:

- More accessible outdoor trails
- More accessible parking spaces allowing immediate access / path of entry to UNC hospital
- A public assistive technology center in the County
- A public heated pool for individuals with disabilities
- Accessible transportation for evening events
- More attention to assistive listening equipment at movie theaters

The 2007 Community Health Assessment also asked participants about concerns related to disability and accessibility. Participants were asked to select from a list of social issues and indicate which three were of the greatest concern to them. Of those surveyed, 18% indicated that the inability of the disabled to access events, facilities and services was one of their top three social concerns. Although 18% is not a large number, it does reflect the awareness on the part of the community of the need for increased integration of those persons living with disability into the larger community and its activities.⁴⁹⁹

Resources

While acknowledging some of the needs of Orange County, it is important to acknowledge the numerous assets that are part of this community. Resources include the UNC System, an active Chamber of Commerce, senior centers, public libraries, numerous communities of faith, extensive outdoor recreation opportunities, and an array of disability advocacy and

⁴⁹⁹ These data are from the Orange County Community Health Assessment conducted the Orange County Health Department, April, 2007. See appendix for survey content.

service organizations. Below is an abbreviated list of selected Orange County and State resources serving persons with disabilities living in Orange County:

Orange County

- Alliance of Disability Advocates, Center for Independent Living
- Chapel Hill Parks and Recreation
- Club Nova
- Family Violence Prevention Center of Orange County
- Hearing Loss Association, Orange County chapter
- NC Orange Public Transportation
- Orange County Disability Awareness Council
- Orange Enterprises, Inc.
- Orange Person Chatham LME
- Mental Health Association of Orange County
- NAMI Orange County
- NC TEACCH Autism Program
- Orange County Parks and Recreation
- Orange County Rape Crisis Center
- Residential Services, Inc.
- Special Olympics, Orange County
- Triangle Transit Authority
- The Arc of Orange County
- UNC Clinical Center for the Study of Development and Learning
- UNC Healthcare System
- Vocational Rehabilitation of Orange County

State Organizations

- Association of Self Advocates of NC
- Cystic Fibrosis Foundation
- Easter Seals/UCP North Carolina
- Epilepsy Foundation of North Carolina
- Family Support Network NC
- First in Families of NC
- Governor's Advocacy Council for Persons with Disabilities
- MS Society Eastern NC Chapter
- Muscular Dystrophy Association
- NC Assistive Technology Program South Central Region
- NC Division of Mental Health, Developmental Disabilities and Substance Abuse Services
- NC Division of Services for the Deaf and the Hard of Hearing
- NC Brain Injury Association
- NC Autism Society
- NC Division of Services for the Blind
- NC Early Intervention Services
- Partnerships in Assistive Technology

Environmental Impact

Inaccessible environments (buildings and outdoor areas) have great impact on many people with disabilities in Orange County. Many buildings were built prior to the Americans with Disabilities Act and are not required to meet these basic guidelines. Doors may be narrow, entrances may have stairs, or restrooms may be too small. The accessibility of outdoor

environments is often not considered during planning and development of outdoor trails, playgrounds, sidewalks, or public events.

Disability is largely culturally defined and reinforced by environmental barriers, such as no curb cuts, heavy doors, high counters, or unpaved parking. Orange County needs to go beyond the minimum requirements set by law to make facilities and services universally accessible and usable to the greatest extent possible by all citizens. Universal design is an approach to the design of products, services and environments in an effort to make them usable by as many people as possible regardless of age, ability or circumstance. By making environments accessible, enhanced facilities and services will be better accessed by all. The weather cannot be controlled, but how a door opens or how the person might enter a facility to avoid rainy weather can be controlled. This environment design framework helps to shape the overall service delivery process, which is preferable to the “retrofit” method used by many organizations.

Creating barrier-free environments in Orange County is an ongoing process that requires input from many people. Designers, builders, and equipment suppliers do not set policies and are not always taught to design for or accommodate the full range of human needs and abilities. Building codes and laws cannot correct for this deficiency, so it is important for professionals and persons with disabilities to become active team members in planning for any facility, program or event in Orange County

Gaps and Unmet Needs/Emerging Issues

People with disabilities need quality health promotion and disease prevention services. They are at risk for developing the same chronic health conditions as the rest of the population including high blood pressure, heart disease, cancer, diabetes, and substance abuse. In many instances, people with disabilities may even be at increased risk and are often starting at the lower end of the health continuum.

Prevention including self-care and counseling, accessible screening for early detection, appropriate accessible, and timely treatment, and early recognition and reduction of known risks, are as important for people with disabilities as they are for everyone else. Much of the health promotion interventions developed for use in the general population of Orange County can be used directly with people with disabilities. In some cases, strategies will need to be adapted or new ones developed.

CHAPTER 10: MENTAL HEALTH

Mental health is an important component of overall health, and thus is important to ensure that the necessary preventive and treatment services are provided to residents. Mental health, however, emerged as one of the top priority issues in the community assessment process. Residents felt that mental health needs are unmet and data shows that it is difficult for some residents to access needed services – both is finding the services needed, continuity in care, and affordability.

A) Adults

The Healthy Carolinians Objectives related to adult mental health are:

Increase the proportion of adults with mental illness who receive treatment by 15%

There is currently no reliable source of comprehensive data with which to determine a baseline for this measure.

Increase the proportion of adults over age 65 with mental illness who receive treatment by 15%

There is currently no reliable source of comprehensive data with which to determine a baseline for this measure.

Impact

The Surgeon General describes mental health disorders as “health conditions that are characterized by alterations in thinking, mood, behavior, (or some combination thereof) associated with distress and/or impaired functioning.”⁵⁰⁰ Healthy Carolinians 2010 states that it is estimated that 15 to 25% of adults suffer from a significant mental illness that impacts their overall functioning.⁵⁰¹ The most common disorders are mood disorders, including anxiety and depression.

Mental health disorders can affect every aspect of one’s life, frequently leading to social and vocational difficulties, and compounding other health problems. Mental illness is, in fact, the second leading cause of disability and premature mortality in the United States.⁵⁰² Social problems that commonly result include family disruption, social isolation, and loss of housing.

Despite mental health disorders being as common as heart disease, enormous social stigma surrounds these disorders and compounds their effects. Those who have mental health disorders are sometimes ostracized and discriminated against, further limiting opportunities. Societal beliefs about mental illness are often internalized by those who are afflicted, exacerbating symptoms such as feelings of low self-worth, shame, and paranoia.

⁵⁰⁰ U.S. Department of Health and Human Services. *Mental Health: A Report of the Surgeon General*. Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Mental Health Services, National Institutes of Health, National Institute of Mental Health, 1999.

⁵⁰¹ Governor’s Task Force for Health Carolinians. (2001). Healthy Carolinians 2010 Objectives. Retrieved May 17, 2007, from Healthy Carolinians web site: <http://www.healthycarolinians.org/2010objs>

⁵⁰² U.S. Department of Health and Human Services. *Mental Health: A Report of the Surgeon General*. Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Mental Health Services, National Institutes of Health, National Institute of Mental Health, 1999.

Contributing Factors

The term *mental illness* refers to an array of specific mental health disorders, making it difficult to generalize contributing factors. According to the most current thinking, the development of a mental health disorder is not attributable to any single cause, but rather is caused by the interplay of environmental and genetic factors. While some disorders, such as post traumatic stress disorder, can be traced more directly to traumatic life events, others, such as schizophrenia, are more directly related to genetic origins. In general, mental health disorders are attributed to an interaction of both internal and external factors.

Stress contributes to the likelihood of the emergence of mental health disorders, and poverty and violence are both sources of stress. The interplay of poverty and mental illness frequently lead to a self-reinforcing negative spiral. According to the World Health Organization (2004):⁵⁰³

People with mental disorders often face stigma, discrimination, and grave violations of their human rights. In addition, mental-ill health and poverty interact in a negative cycle: mental-ill health impedes people's ability to gain access to education and employment and consequently to engage productively in society, and poverty in turn increases the risk for developing mental health disorders, and reduces people's ability to access much needed mental health interventions.

Data

Comprehensive and accurate data on mental health services in Orange County, and indeed the entire state, is difficult to obtain. This is due in large part to a service system that is split into three disparate funding categories: privately funded (including private insurance and out-of-pocket), Medicaid (a combination of county, state, and federal funding), and state dollars that primarily fund the uninsured. The lack of accessible, comprehensive data has been one of the challenges that has complicated mental health system reform efforts.

The more serious and persistent of the mental health disorders are distributed evenly among populations across the United States, and even globally. The estimated rate of adults with serious mental illness (bipolar disorder or schizophrenia for example) in the US is 5.8%. 10% of children have a serious emotional disturbance.⁵⁰⁴ Examples of these disorders include reactive attachment disorder and conduct disorder.

Nationally it is estimated that only one-third of individuals with mental health disorders receive treatment. Treatment rates in Orange, Person and Chatham Counties* are slightly lower than the state average at 30%, with 34.4% being the state average.⁵⁰⁵ However, these numbers only reflect individuals who are receiving treatment in the publicly funded system, so while they could be interpreted to mean that fewer people who need services are receiving them relative to the rest of the state, they could also reflect a higher number of people accessing private services in Orange County compared to the rest of the state.

While treatment rates are near national averages, across North Carolina continuity of treatment is lacking. "Treatment prevalence" refers to the percentage of those with a disorder

⁵⁰³ The World Health Organization. The World Health Report (2004). Changing History, Annex Table 3: Burden of disease in DALYs by cause, sex, and mortality stratum in WHO regions, estimates for 2002. Geneva., Switzerland.

⁵⁰⁴ Broskowski, A. & Thompson, C. (2006). Long Range Plan for Meeting Mental Health, Developmental Disabilities, and Substance Abuse Services in North Carolina. Heart of the Matter Inc. Fort Meyers, FL.

⁵⁰⁵ Ibid

who are receiving services, while continuity of treatment refers to duration and intensity, or “dose,” of services. Throughout the state, services are not being delivered with effective levels of continuity.

Disparities

Some categories of mental illness occur at similar rates across populations, others are more likely to occur in specific groups. Depression, for example, affects twice as many women as men. Men are at significantly higher risk than women for impulse control disorders.⁵⁰⁶ Dementia illnesses, such as Alzheimer’s disease, are as high as 12% among persons over the age of 65. That rate grows to 25% for those over the age of 85.⁵⁰⁷

While most mental health disorders are distributed relatively evenly across socio-economic groups, access to mental health care is not. For those with private insurance, federal and North Carolina laws require that mental health services be covered with the same lifetime limits as other classes of health care. North Carolina’s “Equitable Coverage” statute, passed in 2007, significantly tightened loopholes that have allowed insurance companies to limit coverage under federal law. Opponents, however, inserted provisions exempting companies with fewer than 25 employees and those companies that are self-insured.

For some individuals, their functioning is so impacted by their illness that they qualify for Social Security Disability and Medicaid. If they are able to negotiate the complicated process of applying and being approved for this benefit, beneficiaries must live at near poverty levels to insure that they can keep their benefits. Those without health insurance can qualify for state funded services if their disorder is serious enough, but have significantly less access to services than those with insurance.

Community Survey Results⁵⁰⁸

In the 2007 Community Health Assessment Survey, respondents cited mental health disorders as the fourth most important health concern facing Orange County residents.

⁵⁰⁶ Kessler RC, Berglund PA, Demler O, Jin R, Walters EE. Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey Replication (NCS-R). Archives of General Psychiatry. 2005 Jun;62(6):593-602.)

⁵⁰⁷ Governor’s Task Force for Health Carolinians. (2001). Healthy Carolinians 2010 Objectives. Retrieved May 17, 2007, from Healthy Carolinians web site: <http://www.healthycarolinians.org/2010objs>

⁵⁰⁸ These data are from the Orange County Community Health Assessment conducted by the Orange County Health Department, April, 2007. See appendix for survey content.

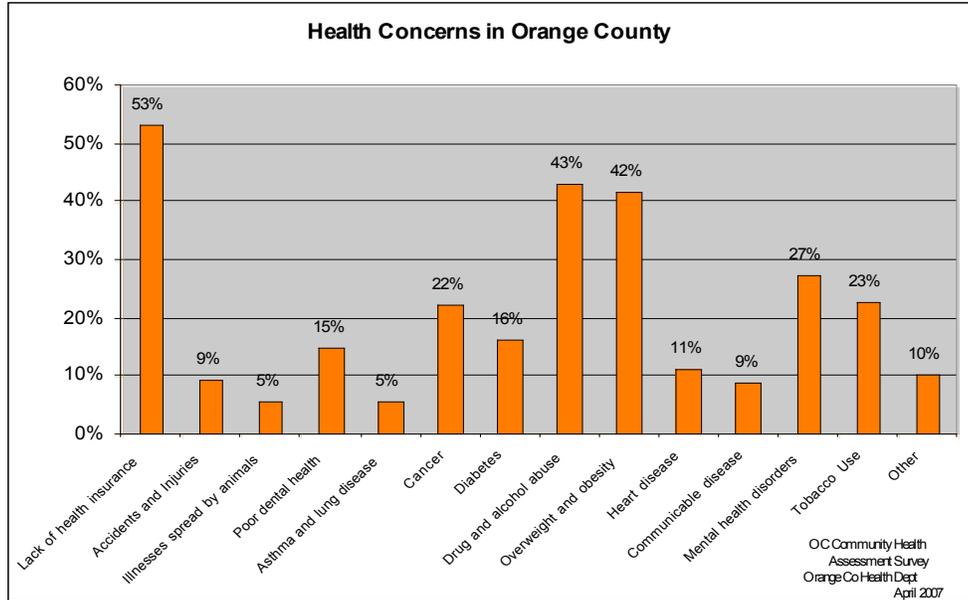


Figure 10, A-1: Responses to the survey question “Which of these things stand out for you as important health issues in Orange County? Choose three.”

However, when asked how easy or difficult it is for someone to get help for mental health concerns, 48% of residents felt that it was very or somewhat easy, 28.7% of residents said they didn’t know, and 17.3% of residents felt it was somewhat or very difficult. When respondents were asked who they would recommend a family member or friend see if they were in needed counseling for a mental a health problem, over half of the respondents said they would recommend a doctor or private counselor/therapist, 32% of respondents would recommend a local mental health program in the neighborhood, while 4% of respondents did not know who to refer someone to. See Figure 10, A-2 for the complete breakdown of responses.

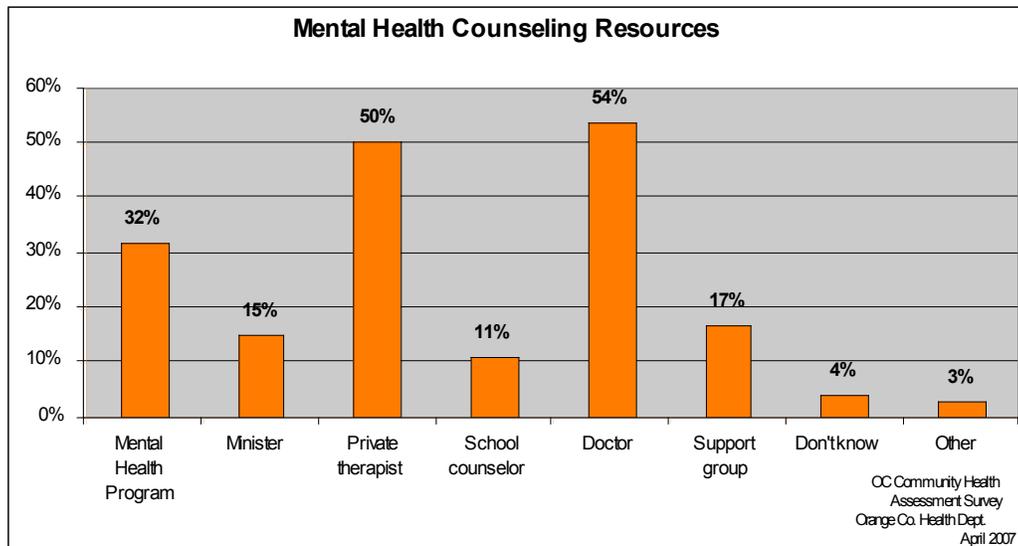


Figure 10, A-2: Responses to the survey question “If a family or friend member needed counseling for a mental health problem, like depression, whom would you recommend they see? You can choose more than one.”

While residents feel that there are places for individuals to get help with mental health problems, it may be more of a challenge for those with few economic resources, for those who do not speak English, and for those who need long-term, comprehensive services. Additionally, in previous surveys residents were also concerned about the stigma that the mentally ill faced and the myriad of ways that it affects their lives.

Resources

North Carolina ranks 43rd among states in per capita spending on mental health services at \$16.80. This fact has a direct impact on the availability of resources.

There are numerous private practices that provide outpatient therapy and psychiatry in Orange County for those with health insurance or who can afford to pay out of pocket. There are also many approved providers for state funded mental health, substance abuse, and developmental disorder services. For a complete listing, refer to the OPC website at <http://www.opcareaprogram.com/Forms/Providers/ProList/Agency%20Service%20Listing%20with%20First%20Responders%20Contact%20Numbers.pdf>

Major resources include:

Orange-Person-Chatham (OPC) Local Management Entity (LME): an LME is a quasigovernmental agency that is responsible for overseeing some aspects of the delivery of publicly funded mental health services. The state is served by 29 LMEs. The LME is accountable to the Division of Mental Health, Substance Abuse, and Developmental Disabilities of the Department of the North Carolina Health and Human Services, as well as the Orange County Board of County Commissioners. OPC is responsible for oversight and management of state funded mental health, substance abuse, and developmental disability services for residents of the three counties. In addition, OPC provides assessment and referral services for all residents. This service is provided through the Screening, Triage, Access, and Referral (STAR) unit at (919) 913-4100. OPC also provides community support services to aid the reintegration of patients being discharged from John Umstead Hospital.

Caring Family Network is the designated Comprehensive Service Agency (CSA) that contracts with the Orange-Person-Chatham Local Management Entity to provide an array of clinical mental health services including psychiatry, psychotherapy, and community support (previously called case management). It also provides walk-in crisis services and around-the-clock on-call crisis services for enrolled clients. CFN operates Northside Clinic in Chapel Hill and Family Counseling Service in Hillsborough.

Caramore Community Inc. Caramore provides coordinated transitional community based, 24-hour employment and independent living training services to those adult citizens of the State of North Carolina with severe and persistent mental illnesses.

Club Nova Community Inc. Club Nova is a psycho-social rehabilitation community designed to promote rehabilitation and reintegration into the community for people with serious mental illness. Club Nova follows the successful Clubhouse Model pioneered by Fountain House in New York City.

Club Nova Apartments include 24 studio units designated for people with disabilities. They are a public/private partnership operated by the Mental Health Association in North Carolina.

Freedom House provides detoxification, intensive inpatient substance abuse services, outpatient substance abuse services, facility based crisis services, and a mobile crisis unit.

Interfaith Council on Social Services (IFC) provides two homeless shelters, a soup kitchen, food pantry, and free clinic. The clinic is staffed by volunteer health professionals, including psychiatrists and social workers. It provides services to over 800 individuals per year.

Lutheran Family Services (LFS) Assertive Community Treatment (ACT) Team. The ACT Team serves individuals living with severe and persistent mental illness. The team works with individuals to help them remain in their home community. The ACT Team offers clinical counseling, medication management, job skill development, psycho-educational groups, and various other services to those living with severe and persistent mental illness.

Lutheran Family Services (LFS) Group Homes LFS operates two group homes for individuals with serious mental illness.

Mental Health Association (MHA) in Orange County Provides community education, information and referral services, advocacy, and non-clinical support programs including Compeer and the Family Advocacy Network. The Community Backyard is a program of MHA that focuses on the mental health needs of youth.

National Alliance for the Mentally Ill (NAMI)-Orange County: Education, advocacy, and family support services. Includes Family-to-Family Program, a series of free classes for family members and friends of persons with mental illness.

Overlook Apartments Operated by the Mental Health Association in North Carolina, the Overlook provides supported one bedroom apartments to individuals with serious mental illness.

UNC Department of Psychiatry at UNC Hospitals provides comprehensive inpatient and outpatient psychiatric services.

- **The Schizophrenia Treatment and Evaluation Program (STEP)**, part of the UNC Dept. of Psychiatry, offers comprehensive care (both inpatient and outpatient) specialized for individuals with mental illnesses with psychotic features.
- **OASIS (Outreach and Support Intervention Services) Clinic**, part of the STEP Clinic located in a satellite office in Chapel Hill, provides specialized psychiatric services for individuals experiencing a first-time psychotic episode.

XDS Inc. Provides Assertive Community Treatment (ACT) to individuals with multiple disabilities. XDS also operates supported apartments for individuals with a variety of disabilities, including psychiatric disabilities.

Gaps

The Triangle area of North Carolina is well known for its excellent health care, and residents of Orange County have access to a relative wealth of mental health services. Mental health reform was initiated in 2001 and has brought mixed results to the community. The process is far from complete. Turnover in the workforce and confusion on the part of the public about how and where to access services remain problematic.

On the other hand, new services such as a mobile crisis unit and a crisis stabilization unit, both operated by Freedom House, have recently been made available. The need for crisis services remains a pressing need for Orange County.

Existing gaps include supported housing for people with psychiatric disabilities, psychotherapy and community support services for the uninsured, and affordable support groups remain pressing needs in the county.

Emerging Issues

Medicare Prescription Drug Coverage

The addition of a prescription drug benefit to Medicare has had some unexpected negative effects on consumers of mental health services. Now, many disabled clients who have historically qualified for patient assistance drug programs are deemed ineligible for this assistance because they have prescription drug coverage. Many of these disabled clients are living on very restricted budgets and the co-pay expectations for Medicare for certain

medications can be costly. This results in some clients having to make the decision between buying food and paying the co-pays on their medications.

The most concerning examples are clients who suffer from severe psychotic disorders that require injectible medications. Many of these injectible medications are extremely expensive and even with Medicaid the out of pocket amount required by the consumer can be cost prohibitive. In the past, these clients would have received these medications for free through patient assistance programs.

Mental Health Reform

Quite possibly the most profound issue affecting mental health services in Orange County is the ongoing implementation of mental health reform. Since the divestiture of nearly all mental health services by OPC LME, many private providers have begun delivering services to the community. While the overall benefit of this is that consumers have greater choice, an added complication is that complex clients who historically have received all of their services under the roof of the mental health center may now be receiving services from numerous providers.

The issue of communication and care coordination between the private providers is a concern, especially when private providers may not receive reimbursement for consulting with other providers. Another factor that is emerging is that private companies, despite having good intentions, do not have the security that the previous public system had. In many cases, consumers who had become accustomed to a high quality of services from OPC, are facing the reality that services can be provided only as long as they are financially sustainable for private sector providers.

One factor that typifies the private sector's struggle is the State's decision to reduce reimbursement rates for Community Support Services (CSS) by approximately 20% in the spring of 2007. After building staffing based on one cost model, providers were forced to abruptly re-evaluate their ability to continue to provide this service based on the new rates.

The trend of rising utilization of state hospital beds is also one that has been identified as an emerging issue. One of the concerns that the community has raised about the mental health reform plan was whether clients would have access and funding available for community-based services. While one of the goals of reform was to reduce hospitalization rates, North Carolina still utilizes state hospitals at twice the national average. Although there is no causal link established between the rising hospitalization rates and mental health reform, it does raise concerns as to whether services under the new system are as easy to access and available as had been hoped.

Service quality and workforce issues are additional concerns that have arisen with the implementation of mental health reform. Under the new system, any service provider that can meet minimum qualifications must be endorsed (authorized) by the LME. As a result, many new providers were authorized to provide services in Orange County, each needing to be monitored for quality. At the same time, the LME had one of core functions and primary means of providing oversight of services, utilization review, taken away and contracted out to a private company.

Lastly, the strength of the workforce is an emergent issue that impacts both the quality and availability of mental health services in Orange County. The shift to the new system has caused instability among the workforce, leading to high turnover rates. New service definitions and a new reimbursement structure for Community Support Services provide an

incentive for providers to utilize lowered skilled, less experienced workers to serve some of the most ill and vulnerable citizens of Orange County.

The promises of mental health reform are surely far from being realized, but they are worth striving for. They include a system that is participant driven, community based, prevention focused, recovery oriented, reflecting best practices, and cost effective.

B) Children and Adolescents

Impact

Mental health disorders often begin during childhood and adolescence and interfere with important developmental tasks. While some individuals will outgrow these problems or develop coping mechanisms to compensate for them, many will enter adulthood with long-term mental health care needs. Like every other age group, children who have problems in these areas often go undiagnosed and untreated, leading to unnecessary functional losses. Identifying and providing services to young people with mental health problems early can prevent the development of more severe mental health conditions and subsequent functional losses.

The impact of mental health disorders in youth is not limited to the intrapersonal, interpersonal, educational, vocational, and legal lives of the individuals with disorders. Parents and siblings of these children have their resources taxed with pressures created by living with a child with an emotional disturbance. Siblings often experience heightened anxiety as a result of family discord. Parents face high rates of marital stress, as well as interruptions of their social and work lives. A family's financial well-being is often impacted as well. Finally, the educational and juvenile justice systems absorb the impact of these disorders (especially those that are untreated) as they strive to provide education, guidance, and discipline for young people.

Contributing Factors

The origin of mental health disorders cannot be attributed to any single cause. These disorders are caused by numerous environmental and individual factors interacting to influence the development of a disorder. Among environmental factors that place a child at risk for a mental health disorder are poverty, family discord, exposure to violence, child abuse and neglect, divorce, and having a parent with a mental health disorder. The primary individual factor that places a child at risk is genetic vulnerability.⁵⁰⁹

Data

Accurate data about children in Orange County with mental health issues and the treatment they receive is not available. This fact is indicative of the fragmented mental health service system that has emerged from mental health reform.

One of the tenets of the new public mental health system was that there should be "no wrong door," meaning that individuals needing services should be able to access services at any point in the system. While this in theory makes the process more convenient for the consumer, it makes it difficult to compile comprehensive statistics. Making it even more challenging is the fact that service authorization, formerly a key function of the Local Management Entity (LME), has been contracted out to a national health administration corporation.

⁵⁰⁹ Fraser, M. (1997). Risk and Resilience in Childhood: An Ecological Perspective. NASW Press. Washington, DC.

Finally, it is nearly impossible to gain access to data from the various private insurance companies and their behavioral health “carve out” sub-contractors. Nevertheless, using prevalence and treatment prevalence statistics, combined with local and state sources, a sketch of the mental health of our young people can be drawn.

According to the North Carolina Division of Mental Health, Substance Abuse, and Developmental Disabilities (MHSADD) 12% of the total child and adolescent population in North Carolina will experience serious emotional disturbances (SED) in any given year. These are children with a variety of disorders who would score 60 or below on a standardized level of functioning test.⁵¹⁰

Based on the US Census Bureau’s population estimate of 24,000 individuals under the age of 18 in Orange County, this would suggest there are approximately 2,880 children and adolescents with serious mental health needs. This number does not include youth with moderate emotional disturbances (MED) or less severe mental health needs.

The Division of MHSADD estimates that there are 4,636 youth in Orange, Person, and Chatham Counties combined in need of mental health services, and 35% of them receive services in the publicly funded system. The obvious question that arises is what percentage of those in need receive services that are reimbursed through private schemes? The answer is elusive.⁵¹¹

Two reliable sources of data come from the school districts. The Chapel Hill-Carrboro Schools conducted the YRBS in 2007 and the Orange County Schools conducted a Communities That Care survey in 2006. A number of YRBS questions measure risk for depression. In response to the question that asks “have you felt sad or lonely for 2 or more weeks in a row in the past 12 months?,” 15.9% of students from CHCCS middle schools and 20.3% of CHCCCS high school students answered yes to this question. In Orange County Schools, 15% of 6th, 8th and 10th grade students have been diagnosed with some form of mental health disorder.⁵¹² See Chapter 7: Suicide for additional details related to suicide among adolescents.⁵¹³

Eating disorders are relatively common psychiatric disorders among young people. It has been estimated that between 0.3-1% of women suffer from anorexia nervosa and around 3% suffer from bulimia nervosa.⁵¹⁴ Data from the 2007 YRBS suggest that middle and high school students in the Chapel Hill Carrboro City School District may suffer eating disorders at a higher rate than average. When asked if they had vomited or used laxatives in the last 30 days to lose/avoiding gaining weight, 5.3% of middle school students and 3.7% of high school students responded “yes.”⁵¹⁵ Considering that eating disorders affect females at a much higher rate than males, and that this question was posed to both males and females, it is likely that females in Orange County suffer from eating disorders at a much higher rate than average.

⁵¹⁰ North Carolina Division of Mental Health, Substance Abuse, and Developmental Disabilities. Community Systems and Progress Indicators. Report for 3rd Quarter SFY 2006-2007

⁵¹¹ Ibid

⁵¹² Personal Communication with Donna Williams Healthful Living Coordinator, Orange County Schools. From the 2006 Communities That Care Survey.

⁵¹³ 2007 Youth Risk Behavior Survey, Chapel Hill-Carrboro City Schools.

⁵¹⁴ Middle and High School Student Responses to the Youth Risk Behavior Survey, 2005, Chapel Hill-Carrboro City Schools and Orange County Schools.

⁵¹⁵ 2007 Youth Risk Behavior Survey, Chapel Hill-Carrboro City Schools.

Disparities

Disparities related to access to mental health services exist in Orange County. Those most severely affected by their disorders, or those whose families are otherwise able to qualify for Medicaid, have access to an array of publicly funded services, including psychiatry, community support (formerly called case management or therapeutic mentorship), psychotherapy, residential treatment, and hospitalization.

For those who fail to qualify for Medicaid, but are part of a “target population,” (meaning they meet criteria for certain diagnoses), state funded services are available. However, the frequency and intensity of these services is greatly restricted compared to those with Medicaid or private insurance. Benefits to those with private insurance vary by plan, but frequently exclude reimbursement for important services such as community support.

Gender disparities related to distribution of certain diagnoses in Orange County generally follow national and international trends. Depression occurs in females at approximately twice the rates found in males.⁵¹⁶ Eating disorders often arise in adolescent and young women; the median age of onset is 17 years. Eating disorders can persist into adulthood and are associated with the highest death rates of any mental disorder.⁵¹⁷ Males are more likely to suffer from substance abuse problems.

Community Survey Results

See community survey section in the Adult Mental Health section above for community results. No specific questions asked regarding children and mental health.

Resources

North Carolina ranks 43rd among states in per capita spending on mental health services at \$16.80. This fact has a direct impact on the availability of resources, though Orange County has a wealth of resources when compared to other counties in the state.

There are numerous **private practices** that provide outpatient therapy and psychiatry in Orange County for those with health insurance or who can afford to pay out of pocket. There are also many approved providers for state funded mental health, substance abuse, and developmental disorder services. For a complete listing, refer to the OPC website at <http://www.opcareaprogram.com/Forms/Providers/ProList/Agency%20Service%20Listing%20with%20First%20Responders%20Contact%20Numbers.pdf>

Caring Family Network is the designated Comprehensive Service Agency (CSA) that contracts with the Orange-Person-Chatham Local Management Entity to provide an array of clinical mental health services including psychiatry, psychotherapy, and community support (previously called case management). It also provides walk-in crisis services and around-the-clock on-call crisis services for enrolled clients. CFN operates Northside Clinic in Chapel Hill and Family Counseling Service in Hillsborough.

Chapel Hill/Carrboro School District Mental Health Program is a new service that is being developed for students with complex mental health needs that interfere with their education.

⁵¹⁶ Kaplan, H & Sadock, B. (1994) Synopsis of Psychiatry. Lippincott and Williams and Wilkins. Philadelphia.

⁵¹⁷ Healthy Carolinians 2010, North Carolina's Plan for Health and Safety, Report of the Governor's TaskForce for Healthy Carolinians. Pg 156.

KidScope serves families with children birth to age 5 for mental health. They provide a range of services including parent education, outreach and consultation.

Mental Health Association in Orange County runs the **Family Advocacy Network** that provides support for parents of children with emotional or behavioral challenges. Services include supportive counseling, parent training, information and referral, and advocacy.

UNC Beacon Child and Family Program provides comprehensive, coordinated care to UNC Healthcare System's patients and families experiencing a variety of family violence. It includes services for children, victims of domestic abuse, and the elderly. The program provides medical and psychological assessments, counseling, and education for patients.

UNC Department of Psychiatry: provides inpatient and outpatient psychiatric services, as well as the following:

- **Division TEACCH program (Treatment and Education of Autistic and Communication related handicapped Children)** is an evidence-based service, training, and research program for individuals of all ages and skill levels with autism spectrum disorders. TEACCH provides clinical services such as diagnostic evaluations, parent training and parent support groups, social play and recreation groups.
- **OASIS (Outreach and Support Intervention Services) Clinic** is part of the Schizophrenia Treatment and Evaluation Program and is located in a satellite office in Chapel Hill. It provides specialized psychiatric services for individuals experiencing a first-time psychotic episode.
- **UNC Eating Disorders Program** provides inpatient, partial hospitalization, and outpatient treatment for eating disorders.
- **UNC Center for Research and Treatment of Bipolar Disorder** was opened in 2007. Its focus is on researching causes and treatments of the disorder.

UNC Hospitals Emergency Department is often utilized by individuals in psychiatric crisis.

Volunteers for Youth (VFY) matches volunteer mentors with at-risk youth to build protective factors such as a relationship with a caring adult and increased self-esteem. VFY also coordinates community service placements for court involved youth and coordinates Teen Court.

Gaps and Unmet Needs

The Triangle area of North Carolina is well known for its excellent health care, and residents of Orange County have access to a relative wealth of mental health services. Mental health reform was initiated in 2001 and has brought mixed results to the community. The process is far from complete. Turnover in the workforce and confusion on the part of the public about how and where to access services remain problematic.

Of the most pressing gaps in the community are in-county therapeutic foster care placements, respite care, and day treatment options.

Emerging Issues

Mental Health Reform

The most profound issue affecting mental health services in Orange County is the ongoing implementation of mental health reform. Since the divestiture of nearly all mental health services by OPC LME, many private providers have begun delivering services to the community. While the overall benefit of this is that consumers have greater choice, an added complication is that complex clients who historically have received all of their services under the roof of the mental health center may now be receiving services from numerous providers.

The issue of communication and care coordination between the private providers is a concern, especially when private providers may not receive reimbursement for consulting with other providers. Another factor that is emerging is that private companies, despite having good intentions, do not have the security that the previous public system had. In many cases, consumers that had become accustomed to a high quality of services from OPC are facing the reality that services can be provided only as long as they are financially sustainable for private sector providers.

One factor that typifies the private sector's struggle is the State's decision to reduce reimbursement rates for Community Support Services (CSS) by approximately 20% in the spring of 2007. After building staffing based on one cost model, providers were forced to abruptly re-evaluate their ability to continue to provide this service based on the new rates.

The trend of rising utilization of state hospital beds is also one that has been identified as an emerging issue. One of the concerns that the community has raised about the mental health reform plan was whether clients would have access and funding available for community-based services. While one of the goals of reform was to reduce hospitalization rates, North Carolina still utilizes state hospitals at twice the national average. Although there is no causal link established between the rising hospitalization rates and mental health reform, it does raise concerns as to whether services under the new system are as easy to access and available as had been hoped.

Service quality and workforce issues are additional concerns that have arisen with the implementation of mental health reform. Under the new system, any service provider that can meet minimum qualifications must be endorsed (authorized) by the LME. As a result, many new providers were authorized to provide services in Orange County, each needing to be monitored for quality. At the same time, the LME had one of its core functions and primary means of providing oversight of services, utilization review, taken away and contracted out to a private company.

Lastly, the strength of the workforce is an emergent issue that impacts both the quality and availability of mental health services in Orange County. The shift to the new system has caused instability among the workforce, leading to high turnover rates. New service definitions and a new reimbursement structure for Community Support Services provide an incentive for providers to utilize lower skilled, less experienced workers to serve some of the most ill and vulnerable citizens of Orange County.

The promises of mental health reform are surely far from being realized, but they are worth striving for. They include a system that is participant driven, community based, prevention focused, recovery oriented, reflecting best practices, and cost effective.

Chapter 11: SUBSTANCE ABUSE

Substance abuse also emerged as a top priority issues in the community health assessment. Like mental health, substance abuse is common in the community, but there are limited services available to assist residents who struggle with substance abuse problems.

A) Adults

The Healthy Carolinians Objectives related to adult substance abuse are:

Increase the proportion of adults in need of comprehensive substance abuse treatment who receive treatment to 8.8 percent

2928 persons were treated for substance abuse by OPC Mental Health's Comprehensive Service Agency operated by Caring Family Network⁵¹⁸, Freedom House⁵¹⁹ and Horizon's⁵²⁰ in the 2006 calendar year. Information regarding the current percent of adults who abuse substances is not available. Within the state of North Carolina, the established prevalence for persons with substance abuse disorders ages 15 to 54 is 6.6%. The treated prevalence for NC's public MH/DD/SA system is 8.4% for person with a substance abuse disorder.⁵²¹

Reduce the prevalence of heavy alcohol use in the past year among individuals 45 years and older to 3%

According to the 2005 BRFSS, 4.4% of all adults surveyed in Orange County were classified as heavy drinkers.⁵²²

Reduce the prevalence of adults, age 18 and older, using any illicit drugs during the past year to 5%

The 2006 UNC Student Wide Population Survey indicated that 19.4% of university students, who voluntarily responded to the survey, reported that during their life they had used illegal drugs, such as LSD, PCP, ecstasy, mushrooms, speed or ice.⁵²³ The July 1, 2005 through June 30, 2006 North Carolina Treatment Outcomes and Program Performance System (TOPPS) report for Adult Substance Abuse Consumers in Orange County indicated that out of the 194 initial assessments completed, 80% reported using heroin/opiate, cocaine, or marijuana in the past twelve months. Eighteen percent of respondents also reported that they have injected drugs at some point in their lives for a non-medical reason.⁵²⁴

Impact

According to Healthy Carolinians 2010, substance abuse is one of North Carolina's most expensive health problems. It is estimated that substance abuse problems are costing North Carolina \$5 billion in health care costs, premature death, reduced productivity, criminal justice, motor vehicle crashes, etc. The problem is compounded by a lack of adequate treatment programs, long waiting periods for services and lack of insurance coverage or funds to pay for treatment.

⁵¹⁸ Personal Communication, Tom Velivil, Service System Manager/Addictions Specialist, 2/12/07.

⁵¹⁹ Personal Communication, Jenny Scepaniski, Assistant to Director, Freedom House, 3/12/07.

⁵²⁰ Personal Communication, Lee Allen, Horizon's, 3/2/07

⁵²¹ Thompson, Christina, Ph.D. and Broskowski, Anthony, PhD., Long Range Plan for Meeting Mental Health, Developmental Disabilities and Substance Abuse Services Needs for the State of North Carolina, 12/12/06, page 50.

⁵²² NC State Center for Health Statistics. 2004 BRFSS Topics for Orange County.

⁵²³ 2006 UNC Student Wide Population Survey

⁵²⁴ North Carolina Treatment Outcomes and Program Performance System, Orange County Section, January 31, 2007.

A study prepared by The Lewin Group for the National Institute on Drug Abuse and the National Institute on Alcohol Abuse and Alcoholism estimated the total economic cost of alcohol and drug abuse to be \$245.7 billion for 1992. Of this cost, \$97.7 billion was due to drug abuse. This estimate includes substance abuse treatment and prevention costs as well as other healthcare costs, costs associated with reduced job productivity or lost earnings, and other costs to society such as crime and social welfare. The study also determined that these costs are borne primarily by governments (46%), followed by those who abuse drugs and members of their households (44%).⁵²⁵

Healthy Carolinians 2010 also cites alcohol abuse among older adults as an especially serious problem. Among men, 15% report their first symptoms of alcoholism occurred between the ages of 60 to 69 and among women, 24% report the same. Alcohol abuse by older adults can result in a higher risk for falls and drug interactions due to older residents taking numerous medications. Many cases of memory deficit and dementia are now believed to be a result of alcoholism.

Dependence on alcohol and drugs is a serious public health problem for our community. Millions of Americans misuse or are dependent on alcohol or drugs and most of them have families who suffer the consequences, often serious, of living with this illness. One significant problem is that addiction tends to worsen over time, hurting both the addicted person and all family members.⁵²⁶

Contributing Factors

"Drug abuse results from a combination of biological, psychological or psychiatric characteristics of the individual user. Recent scientific research shows that characteristics of the individual, rather than of the drug, play a dominant role in vulnerability to drug abuse. The social and psychological maladjustment that characterizes most frequent drug abusers *precedes* the first drug use. Poorly adjusted individuals who do not become involved with illegal drugs will often become involved with some other non-drug addictive behavior that fills the same psychological void."⁵²⁷

According to the National Alliance on Mental Illness (NAMI), many people also use drugs to cope with unpleasant emotions and the difficulties of life. In fact, NAMI estimates that around 50% of drug users also suffer from a mental illness such as depression, anxiety, bipolar disorder or schizophrenia. Locally, the TOPPS report revealed that of the 194 initial assessments of adult substance abusers in Orange County, 37% reported moderate mental health symptoms in the past month and 12% reported severe or very severe mental health symptoms in the past month. Likewise, 45% reported fair or poor physical health, 59% reported fair or poor emotional well-being and 51% reported fair or poor family relationships. Additionally, a lack of available treatment, lack of knowledge about the effectiveness of treatment and lack of funds to pay for treatment all contribute to high rates of substance abuse.

Data

As with mental health data, it is challenging to find comprehensive data on this topic due to the diversity of providers in the area and the fact that mental health reform has created a

⁵²⁵ National Institute on Drug Abuse, NIDA Infofacts: Costs to Society. <http://www.drugabuse.gov/infofacts/costs.html/>. Accessed 4/17/07.

⁵²⁶ Partnership for a Drug Free NC. <http://www.drugfreenc.org/addiction/addiction.htm>. Accessed 4/17/07.

⁵²⁷ Drug Use: Why People Use Drugs, <http://rf-web.tamu.edu/security/secguide/Eap/Drugs.htm>. Accessed 4/17/07.

somewhat fragmented system where there is no longer one main provider of services. During the 2006 calendar year, OPC, through its Comprehensive Service Agencies operated by Caring Family Network, served 1471 adults (864 male/607 female) with a substance abuse diagnosis. Of those served, the most common drug of dependence was alcohol, followed by cocaine, cannabis and polysubstance. The majority of those served were Caucasian, followed by African American, Hispanic, Native American and other.⁵²⁸

During this same year, Freedom House Recovery Center in Chapel Hill, which provides halfway houses for men and women, a life skills program and an acute stabilization/detox program, served a total of 1294 adults (759 male/535 female), of which 657 were Caucasian, 539 were African American, 82 were Hispanic and 16 were Asian.⁵²⁹ During the 2005 fiscal year, the Horizons Program, a comprehensive treatment program for women with children, served 55 total women, of which 37 were African American and 21 were Caucasian.⁵³⁰ Project Turnaround, a diversionary program for first time offenders, served 55 adults age 22 to 40+ years.⁵³¹

Disparities

The 2005 National Household Survey on Drug Abuse (NHSDA, conducted by Research Triangle Institute) indicates that young adults age 18 to 25 years had higher rates of substance dependence or abuse (21.8 %) than youth age 12 to 17 years (8.0 %) and adults age 26 years and older (7.1 %). Among persons with substance dependence or abuse, the proportion dependent on or abusing illicit drugs was associated with age in 2005: 58.2 % of youths age 12 to 17 years, 38.6 % of young adults age 18 to 25 years, and 22.3 % of adults age 26 years or older. Males age 12 years or older were about twice as likely to be classified with substance dependence or abuse as females (12.0 vs. 6.4 %).

Community Survey Results⁵³²

Substance abuse in the community is a major concern for residents. In the 2007 Community Health Assessment Survey, respondents cited drug and alcohol use as the second most serious health concern in their community. (See Figure 11, A-1 below).

⁵²⁸ Personal Communication, Tom Velivil, Service System Manager/Addictions Specialist, 2/12/07.

⁵²⁹ Personal Communication, Jenny Scepaniski, Assistant to Director, Freedom House, 3/12/07.

⁵³⁰ Personal Communication, Lee Allen, Horizon's, 3/2/07

⁵³¹ Personal Communication, Bill Cozart, Director, 3/27/07.

⁵³² These data are from the Orange County Community Health Assessment survey conducted the Orange County Health Department, April, 2007. See appendix for survey content.

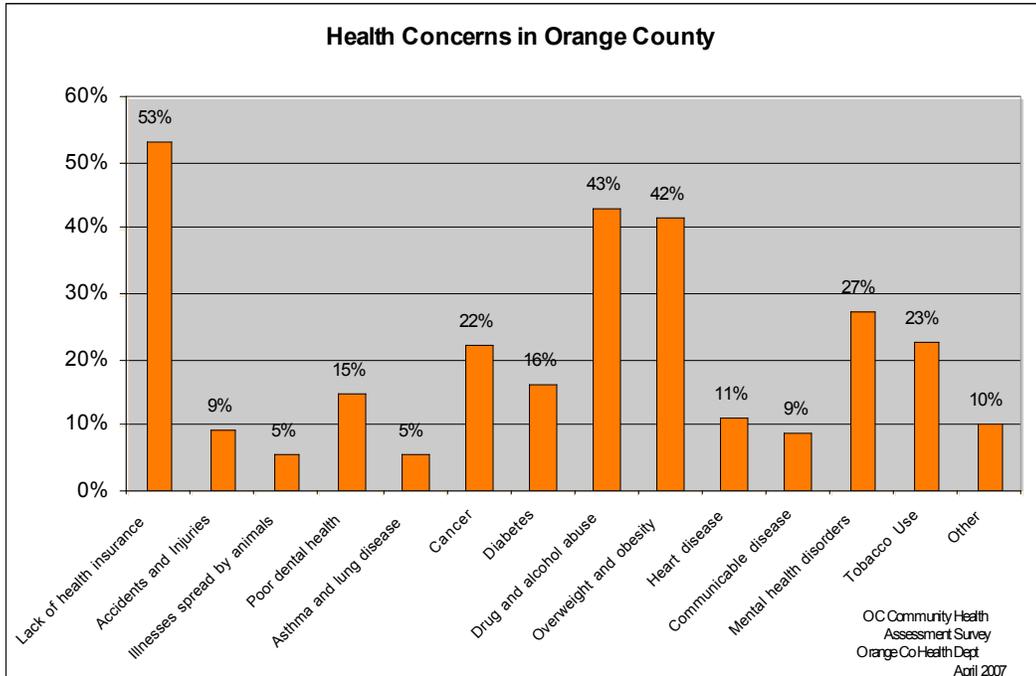


Figure 11, A-1 Responses to the survey question “Which of these things stand out for you as important health issues in Orange County? Choose three.”

When asked who respondents would recommend a family member or friend see if they were in need of counseling for substance abuse problem, 79% of respondents said school counselor and 72% said minister/religious official (note: respondents could choose more than one response). See Figure 11, A-2 for the complete breakdown of responses.

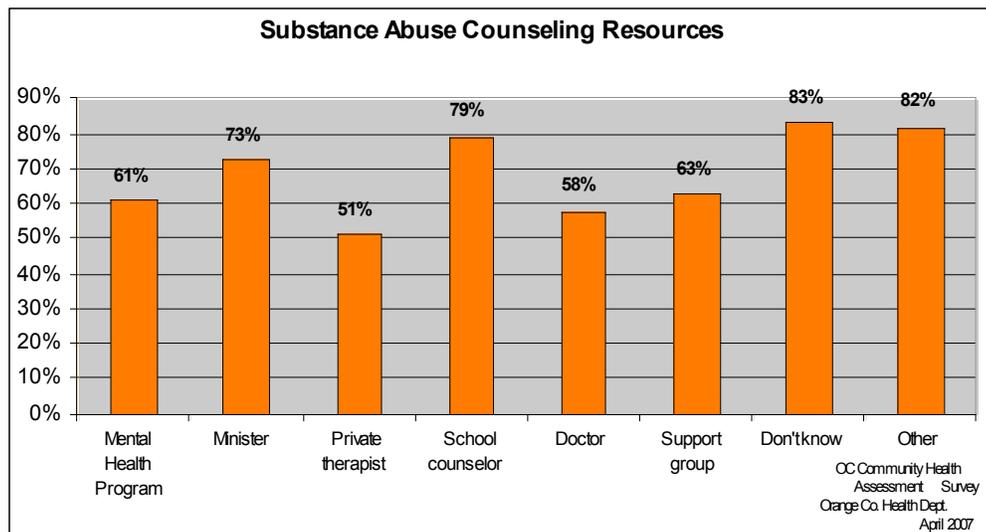


Figure 11, A-2: Responses to the survey question “If a friend or family member needed counseling for problems with drugs, whom would you recommend they see? You can choose more than one.”

When asked how easy or difficult it is to get help for an alcohol or drug abuse problem, 41% said they did not know, 39% said it was very easy or easy, and 17% said it was difficult or very difficult. In the 2003 survey, residents commented that the lack of treatment funding for those who abuse substances serves to exacerbate the impact that substance abuse has on

their health and the health of our community. We are fortunate to have several treatment programs in our community, but as one recovering client put it, “When people tell me that they’re going to get help for their drug problem, I say...well, who’s going to pay for it?” A local service provider added, “I feel that programs have a difficult time working together and therefore we see programs attempting to provide similar and duplicative services.”

Resources

As mentioned above, OPC Mental Health through contracted providers such as the Comprehensive Service Agency operated by Caring Family Network, Freedom House, Horizon’s, Project Turnaround and UNC’s ASAP program all provide substance abuse treatment for adults. In addition there are numerous Alcohol Anonymous and Narcotic Anonymous groups that meet throughout the county.

Gaps and Unmet Needs

Through interviews with local substance abuse providers there were several emerging needs and gaps in services mentioned. Among the most frequently cited gaps were lack of residential services and detox facilities. One parent stated, “*A 28-day residential program saved my daughter’s life. It seems that with mental health reform, there are no more of those types of programs in our community. We need more residential programs where people can take the time that is needed for recovery.*” According to the National Institute on Drug Abuse, “treatment can occur in a variety of settings, in many different forms, and for different lengths of time. Because drug addiction is typically a chronic disorder characterized by occasional relapses, a short-term, one-time treatment often is not sufficient. For many, treatment is a long-term process that involves multiple interventions and attempts at abstinence.”⁵³³

Another gap in services cited by providers and consumers was the lack of individualized services, often created by restrictive service definitions. One provider stated, “*Many consumers are not ready to go straight from a few days of detox to a long-term residential placement, like a half-way house. There’s a need for a step down between these two levels of services and currently we don’t have that in our community.*” Frequently mentioned was also the lack of available services for consumers with substance abuse problems. One counselor at UNC said, “*We have trouble getting people into treatment in the community because of availability...many times there are waiting lists or no programs that are appropriate for the student.*”

Emerging Issues

As mental health treatment becomes more and more focused on brief, out-patient treatment, we may lose the opportunity to create a spectrum of services for substance abusers. And yet, as citizens mentioned time and again during this assessment, the burden that substance abuse places on our community is large. Other issues reported by service providers and consumers include the increase of alcohol dependence and the need for alcohol focused treatment, more treatment resources for the Spanish speaking population and the incredible stigma associated with substance abuse. One provider commented, “*Community members are concerned about the problem of substance abuse but they do not want to see it or help deal with it. There is a lot of NIMBYism (not in my backyard) in Orange County and the stigma around substance abusers is strong.*” Overcoming misconceptions and replacing ideology with scientific knowledge is the best hope for bridging the gap between the public perception of drug abuse and addiction and the scientific facts surrounding this illness.

⁵³³ National Institute on Drug Abuse: Principles of Evidenced Based Treatment, <http://www.nida.nih.gov/PODAT/PODATIndex.html>. Accessed 4/17/07.

There is also growing interest in providing evidence-based services that have been proven to be effective in the treatment of substance abuse. Some examples of these services include motivational interviewing, multi-dimensional family therapy and methadone treatment.

B) Children and Adolescents

The Healthy Carolinians Objectives related to adolescent substance abuse are: ***Reduce the percentage of high school students who consumed alcohol within the past 30 days to 28.8 percent***

According to the 2007 Chapel Hill-Carrboro City Schools YRBS, 41.9% of high school students consumed alcohol on one or more days in the past thirty days.⁵³⁴ The 2006 Communities that Care Survey conducted by Orange County Schools indicates that 15.9% of students reported having 1 to 9 drinks in the past 30 days and 5% reported having 10+ drinks in the past 30 days.⁵³⁵

Reduce the percentage of high school students who had five or more drinks of alcohol within the past 30 days to 15 percent

According to the 2007 Chapel Hill-Carrboro City Schools YRBS, 25% of high school students reported drinking five or more drinks of alcohol within the past 30 days.⁵³⁶ The 2006 Communities that Care Survey conducted by Orange County Schools indicates that 15.9% of students reported having 1 to 9 drinks in the past 30 days and 5% reported having 10+ drinks in the past 30 days.⁵³⁷

Reduce the percentage of high school students who used marijuana in the past 30 days to 16 percent

According to the 2007 Chapel Hill-Carrboro City Schools YRBS, 12% of high school students smoking marijuana one to nine times in the past 30 days and 7% reported smoking marijuana 10+ times in the past 30 days.⁵³⁸ In 2006, in Orange County Schools, 8.4% of students reported smoking marijuana one to none times in the past 30 days and 5.9% reported smoking marijuana 10+ times in the past 30 days.⁵³⁹

Reduce the percentage of middle and high school students who sniffed glue or spray containers to get high at some time in their life to 13 percent.

According to the 2007 Chapel Hill-Carrboro City Schools YRBS, 10% of middle school students and 11.6% of high school students used inhalants sometime in their life to get high.⁵⁴⁰

Reduce the percentage of middle and high school students who have ever used any form of cocaine to 4 percent

According to the 2007 Chapel Hill-Carrboro City Schools, 6.5% of high school students have used cocaine and 4.2% of middle school students have ever used cocaine.⁵⁴¹

⁵³⁴ Youth Behavior Risk Survey, 2007, Chapel Hill-Carrboro City Schools

⁵³⁵ Communities that Care Survey, 2006, Orange County Schools

⁵³⁶ Youth Behavior Risk Survey, 2007, Chapel Hill-Carrboro City Schools

⁵³⁷ Communities that Care Survey, 2006, Orange County Schools

⁵³⁸ Youth Behavior Risk Survey, 2007, Chapel Hill-Carrboro City Schools

⁵³⁹ Communities that Care Survey, 2006, Orange County Schools

⁵⁴⁰ Youth Behavior Risk Survey, 2007, Chapel Hill-Carrboro City Schools

⁵⁴¹ Ibid

Impact

As with adults, substance abuse among teens is a growing concern in our community. Teen substance abuse affects teens and their families, as well as our community. The community's ability to support teens' developmental needs, and provide them with treatment options if they are abusing substances, will determine whether rates of substance abuse among teens will rise or fall.

The use of alcohol and other drugs can prevent young people from reaching their intellectual, social and emotional potential. Substance use may also predispose young people to high-risk behaviors such as sexual behavior, which may result in unwanted pregnancy or sexually transmitted infections. Alcohol and other drug use combined with driving often results in fatal and non-fatal traffic related injuries.

Contributing Factors

Family drug use, family management practices, family conflict and low bonding to family; early and persistent behavioral problems; academic failure, low commitment to school, and peer rejection in early grades; association with drug-using peers and adults; attitudes favorable to drug use; early onset of drug use and anti-social behaviors can all contribute to adolescent substance abuse which can carry on into adulthood. "For psychologically healthy youths, some experimentation with drugs does not normally have adverse future consequences. For others who already have some emotional or psychological problem, drug use easily becomes part of a broad pattern of self-destructive behavior."⁵⁴²

Data

During calendar year 2006, OPC Mental Health through its Comprehensive Service Agency served 108 children and adolescents for substance abuse treatment.⁵⁴³ Project Turnaround served 64 youth ages 16 to 21 years.⁵⁴⁴

Though self-reported data by teens about substance abuse may not be 100% reliable, it can be a fair indication of trends. Thanks to the administration of surveys by the two local school systems, there is fairly recent and solid data on drug use as reported by middle and high school students in the county. Unfortunately this data shows a high use of drugs as reported by our young people compared to the Healthy Carolinians 2010 goals. Marijuana and alcohol are the main drugs of choice among Orange County youth, and use of other drugs is reported by far fewer students and appears to be on a more experimental basis. Alcohol and marijuana are gateway drugs that may lead to further or more frequent use of other drugs.

In Chapel Hill-Carrboro City Schools (CHCCS), almost 20% of middle school respondents reported having their first alcoholic beverage before the age of thirteen. A slightly smaller percentage of high school respondents (18%) reported drinking at age twelve or younger. High school respondents reported drinking on several days out of the past 30 days; 46.7% reported drinking on one or more days. 25.3% reported binge drinking in the past 30 days.⁵⁴⁵ In Orange County, 15.9% of students reported having drunk 1 to 9 beers in the past thirty days and 5% reported drinking 10+ beers in the past thirty days.⁵⁴⁶ UNC students, through

⁵⁴² Drug Use: Why People Use Drugs, <http://rf-web.tamu.edu/security/secguide/Eap/Drugs.htm>. Accessed 4/17/07

⁵⁴³ Personal Communication, Tom Velivil, Service System Manager/Addictions Specialist, 2/12/07

⁵⁴⁴ Personal Communication, Bill Cozart, Director, 3/27/07

⁵⁴⁵ Youth Behavior Risk Survey, 2007, Chapel Hill-Carrboro City Schools

⁵⁴⁶ Communities that Care Survey, 2006, Orange County Schools

the 2006 Student Wide Population Survey indicated that within the last thirty days, 72.8% drank alcohol.⁵⁴⁷

In the CHCCS, 6.5% of middle school students and 6.8% of high school students reporting being age 12 or younger when they first tried marijuana; 6.6% of middle school respondents and 19.3% of high school students reported smoking marijuana 1+ time in the past thirty days; 3.9% of middle school students and 5.3% of high school students reported smoking marijuana 1+ time on school property in the past 30 days.⁵⁴⁸ Orange County School students reported that 8.4% had smoked marijuana 1 to 9 times and 5.9% had smoked 10+ times in the past thirty days.⁵⁴⁹ 3% of UNC students reported smoking marijuana in the past thirty days.⁵⁵⁰

The North Carolina TOPPS report indicated that 22 adolescents between the ages of 12 to 17 years had an initial substance abuse assessment during fiscal year 2006. Of those, 77% were male and 23% were female; 73% were involved with juvenile justice; and marijuana was the primary substance problem for 73%, followed by alcohol at 14% and cocaine at 14%.⁵⁵¹

Type of Drug	Middle School	High School
Have used steroid pills/shots without prescription	3%	4.4%
Have taken prescription drugs without doctor's prescription	3.8%	13.2%
Have used methamphetamines	n/a	5.6%
Have used heroin	n/a	4.4%
Have used ecstasy	n/a	6%

Table 11, B-1: Student Reported Drug Use (other than Marijuana, Alcohol, Inhalants, and Cocaine)⁵⁵²

Disparities

In the 2005 National Household Survey on Drug Abuse (NHSDA, conducted by Research Triangle Institute), young adults ages 18 to 25 years had higher rates of substance dependence or abuse (21.8 %) than youth ages 12 to 17 years (8.0 %) and adults age 26 years or older (7.1 %). Among persons with substance dependence or abuse, the proportion dependent on or abusing illicit drugs was associated with age in 2005: 58.2 % of youths aged 12 to 17, 38.6 % of young adults age 18 to 25 years, and 22.3 % of adults age 26 years or older with substance dependence or abuse were dependent on or abused illicit drugs. Males age 12 years or older in 2005 were about twice as likely to be classified with substance dependence or abuse as females (12.0 vs. 6.4 %). Also according to this report, among youth age 12 to 17 years, however, the rate of substance dependence or abuse among males were similar to the rate among females (7.8 vs. 8.3 %).⁵⁵³

Community Survey Results

See community survey results in the adult substance abuse section.

⁵⁴⁷ 2006 UNC Student Wide Population Survey

⁵⁴⁸ Youth Behavior Risk Survey, 2007, Chapel Hill-Carrboro City Schools

⁵⁴⁹ Communities that Care Survey, 2006, Orange County Schools

⁵⁵⁰ 2006 UNC Student Wide Population Survey

<http://www.drugabusestatistics.samhsa.gov/NSDUH/2k5NSDUH/2k5results.htm#Ch7>

⁵⁵¹ 2006-2007 Treatment Outcomes and Program Performance System (NC-TOPPS) reports, <http://www.dhhs.state.nc.us/mhddsas/announce/nctopps3-8-06memo-all.pdf>. Accessed 8/1/07

⁵⁵² Youth Behavior Risk Survey, 2007, Chapel Hill-Carrboro City Schools

⁵⁵³ 2005 National Household Survey on Drug Abuse,

<http://www.drugabusestatistics.samhsa.gov/NSDUH/2k5NSDUH/2k5results.htm#Ch7>. Accessed 8/1/07

Resources

Service providers note that we have developed a fairly coordinated system of care for teens whose substance abuse brings them into the juvenile justice system. Project Turnaround, a diversionary program for first time offenders run out of the Chapel Hill Police Department and serving the entire county, offers treatment for teens. OPC Mental Health has also recently begun the MAJORS program, a comprehensive substance abuse treatment service for adjudicated teens with substance abuse diagnoses. OPC Mental Health was recently awarded \$200,000 to improve substance abuse treatment as well as treatment for kids with dual diagnoses. The CHCCS have a counselor with substance abuse counseling credentials at each high school. In 2003, Chapel Hill High School began a drug and alcohol awareness task force whose goal is to bring more public attention to the prevalence of substance use on school campuses and to galvanize the community to do something about it. Police Crisis services are all working together to help create a system where juvenile delinquency and substance use are seen as related issues that form a part of a complex picture of teen behaviors. But despite these endeavors, there remain few options for therapeutic treatment for young people with substance abuse problems.

Gaps and Unmet Needs

Parents and providers alike wish that there were more treatment options for teen substance abusers. There is no residential treatment program for teens in our community; therefore, teens with significant problems must be removed from our community in order to receive treatment. At the same time, parents and providers recognized that returning ‘treated’ teens to a community where the pressures that encouraged them to use drugs or alcohol in the first place are still present, is not a productive solution. Community members asked that we look hard at ways of preventing substance abuse through both creative outreach and service delivery, and through providing outlets to teens so that they do not use substances to begin with. Service providers from a variety of professions who work with addicted teens see substance abuse as, at least in part, an indicator of the lack of enriching, engaging opportunities that we need to make readily accessible to each and every teen. Nearly every provider who was interviewed cited comprehensive substance abuse treatment for youth as the largest need in this community.

A recent report by the Action for Healthy Kids, highlighted the disconnect between what parents assume their teens are doing and what their teens are actually doing in regards to substance abuse. The report revealed that the majority of parents (76%) assume their child is not engaging in risky behaviors such as substance abuse and sexual behavior. However, the YRBS reveals that many teens do engage in these behaviors. “When parents underestimate the likelihood that their teen is engaging in these types of behaviors, they are less likely to take effective action to prevent such behaviors or to help their teens make better decisions.”⁵⁵⁴ Raising awareness about risky teen behaviors and educating parents about how to talk to their teens and about concrete actions to take can help parents protect their teens and positively influence teen decision making.⁵⁵⁵

⁵⁵⁴ Sex, Drugs and Rock N’ Roll: What teens do, what parents assume, and what parents can do. Action for health Kids, 2007. www.ncchild.org

⁵⁵⁵ Ibid

Emerging Issues

One of the largest barriers to serving young people with substance abuse problems is finding youth and families who are willing to engage in treatment. Many families remain in denial about the fact that their child is using alcohol or drugs. And once entered into treatment, motivating a teen to address this issue is additionally challenging. Research has shown that comprehensive prevention programs that involve the family, schools, communities, and the media are effective in reducing drug abuse. It is necessary to keep sending the message that it is better to not start at all than to enter rehabilitation if addiction occurs.⁵⁵⁶

⁵⁵⁶ National Institute on Drug Abuse, NIDA InfoFacts: Understanding Drug Abuse and Addiction, <http://www.drugabuse.gov/infofacts/understand.html>. Accessed 4/17/07

CHAPTER 12: ENVIRONMENTAL HEALTH

The interaction between people and their environments, natural as well as human-made, continues to emerge as a major issue concerning public health. Broadly defined, the environment includes all that is external to an individual -- the air we breathe, the water we drink and use, the land and built structures that surround us -- all of the natural as well as human-formed conditions that influence the quality of our lives.⁵⁵⁷

The quality of life within Orange County continues to attract residents and workers to the area. As the County continues to grow, one challenge is accommodating this growth while maintaining the high quality of life that current residents enjoy. Because the environment can impact health and contribute to the development of many human illnesses it is important to monitor the health of our environment and reduce the amount of harmful environmental agents present in the community. The Orange County Health Department, in collaboration with local and state agencies, provides many services and recourses to monitor and protect the environment and the health of Orange County residents. This chapter discusses the current state of Orange County's environment and its impact on human health.

This chapter contains the following sections:

A) Air Quality

A1) Outdoor Air

A2) Indoor Air

B) Water Quality

B1) Surface Water

B2) Drinking

B3) Groundwater

C) Food Safety

D) Physical Environment

E) Toxic Chemical Release

F) Waste Management

⁵⁵⁷ National Institute of Environmental Health Sciences. Accessed on October 23, 2007, at <http://www.niehs.nih.gov/health/topics/index.cfm>.

A) Air Quality

Healthy Carolinians 2010 objectives for air quality are:

Ensure that all North Carolinians breathe air that meets the new health-based standards for ozone. (baseline to be established)

Increase the percent of compliance rate for major and minor emissions sources to 90 percent

There is currently no data available for Orange County related to these objectives.

Impact

Poor air quality both indoors and out can severely impact the health of the lungs. Fragile lung tissue is easily damaged by pollutants in the air, resulting in increased risk of asthma, allergies, bronchitis, lung cancer and other temporary or chronic respiratory disorders and diseases. Air pollution also indirectly impacts health by discouraging or limiting outdoor exercise when the air quality is poor. Air pollution can negatively affect the health of the entire population, although children and people with preexisting lung conditions are more seriously impaired. Several types of pollutants affect air quality. Each is discussed below.

A1) Outdoor Air Quality

Data

Criteria Air Pollutants

The EPA has set National Ambient Air Quality Standards (NAAQS) for the following six common pollutants (known as criteria pollutants): particulate matter, carbon monoxide, sulfur dioxide, nitrogen oxides, ground-level ozone, and lead. The EPA calculates the Air Quality Index (AQI) of an area based on concentrations of these pollutants. For each of these pollutants, EPA has established national air quality standards to protect public health. ground-level ozone and airborne particles are the two criteria air pollutants that pose the greatest threat to human health in the United States.⁵⁵⁸

The EPA currently only monitors particulate matter in Orange County; however, levels of other criteria air pollutants are determined through statistical analysis of other monitoring sites surrounding Orange County. In 2006, Orange County had three days with the AQI exceeding 100 (the health hazard threshold level for sensitive groups); however, in 2005 there were eight days in which Orange County's AQI exceeded 100.^{559,560}

⁵⁵⁸ US Environmental Protection Agency. Six Common Air Pollutants. Available at: <http://www.epa.gov/air/urbanair/>. (Accessed March 2007).

⁵⁵⁹ US Environmental Protection Agency. Air and Radiation. Air Data. Reports and Maps. County Air Quality Report – Criteria Air Pollutants. Available at: <http://www.epa.gov/air/data/geosel.html>. (Accessed March 2007).

⁵⁶⁰ US Environmental Protection Agency. Air Quality System. Air Quality Summary Report. Raleigh-Durham-Chapel Hill MSA. Available at: <http://daq.state.nc.us/monitor/data/files/rdu2005.pdf>. (Accessed March 2007).

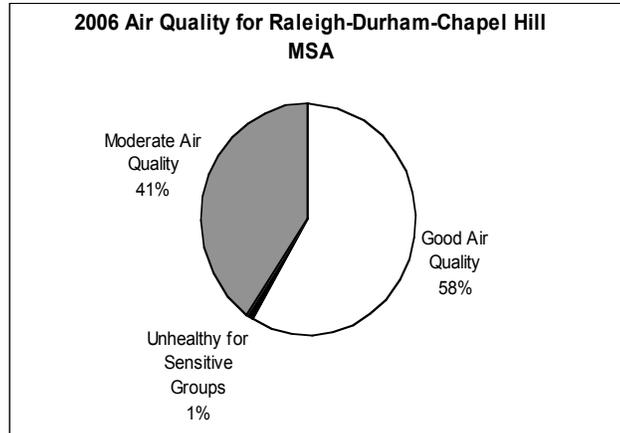


Figure 12, A1-1: 2006 Air Quality for Raleigh-Durham-Chapel Hill⁵⁶¹

	Percentage of Days When Air Quality was...				Contributing Pollutants		
	Good	Moderate	Unhealthy for Sensitive Groups	Unhealthy	Carbon Monoxide	Ozone	Particulate Matter
2006	65%	35%	<1%	0%	<1%	47%	53%
2005	52%	45%	2%	0%	0%	29%	71%
2004	51%	48%	1%	0%	0%	15%	85%
2003	55%	42%	2%	<1%	<1%	24%	76%

Table 12, A1-1: Air Quality and Contributing Pollutants⁵⁶²

Particulate Matter

Small particles and liquid droplets suspended in the ambient air make up particulate matter. These particles reduce visibility, cause health problems, and can be corrosive to buildings. Levels of particulate matter in Orange County are below the NAAQS of 15 $\mu\text{g}/\text{m}^3$ established by the EPA.⁵⁶³

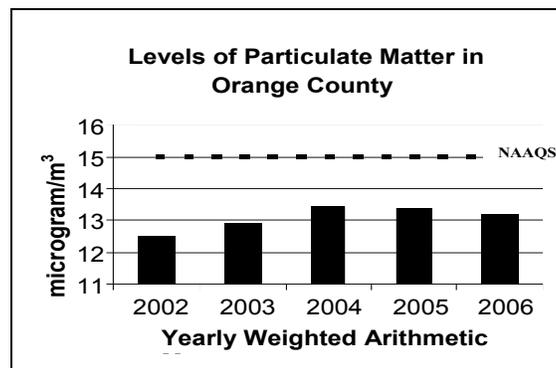


Figure 12, A1-2: Levels of Particulate Matter in Orange County⁵⁶⁴

⁵⁶¹ US Environmental Protection Agency. Air Quality Index Report. Air Data. Available at: <http://www.epa.gov/air/data/monaqi.html?st~NC~North%20Carolina>. (Accessed March 2007).

⁵⁶² Ibid

⁵⁶³ US Environmental Protection Agency. Non-attainment Areas Map. Air Data. Available at: <http://www.epa.gov/air/data/nonat.html?st~NC~North%20Carolina>. (Accessed March 2007).

⁵⁶⁴ North Carolina Department of Environment and Natural Resources. Division of Air Quality. Monitoring Data. Data Archives and Statistical Summaries. Available at: <http://daq.state.nc.us/monitor/data/pm2pt5/>. (Accessed March 2007).

Carbon Monoxide

High levels of carbon monoxide (CO) are common in urban areas with heavy traffic congestion. CO is an odorless, colorless gas formed by incomplete combustion of fuels and organic matter. When inhaled, CO displaces oxygen in the bloodstream and reduces the delivery of oxygen to vital organs. Additionally CO contributes to the formation of ozone.⁵⁶⁵ Orange County levels of CO are below the NAAQS.⁵⁶⁶

Sulfur and Nitrogen Oxides

Sulfur dioxide (SO₂) and Nitrogen Oxides (NO) are emitted from coal and oil burning power plants and combustion of fossil fuels. High levels of SO₂ can cause respiratory problems in humans, reduced visibility, acid rain, degradation of buildings, and damage to plants.⁵⁶⁷ NO react with other compounds to form ground-level ozone, acid rain, particulate matter, and other toxic chemicals. Current levels of SO₂ and NO in Orange County are below the NAAQS.⁵⁶⁸

Ground-level Ozone

Ozone (O₃) is a secondary pollutant created from a photochemical reaction between nitrogen oxides and volatile organic compounds (VOC). NO and VOC are emitted from industrial and utility facilities, motor vehicles exhaust, gasoline vapors, and chemical solvents. Ground-level ozone is the primary constituent of smog. Inhalation of ozone can cause chest pain, coughing, reduced lung function, scarring of lung tissue, and worsening of preexisting lung conditions. Children are at greatest risk from ozone exposure because their lungs are still developing and they spend more time outside playing. Asthmatics and others with respiratory disorders also suffer from ozone pollution because it aggravates the lungs and result in more asthma attacks and respiratory distress. Ground-level ozone damages plants as well and is responsible for an estimated annual \$500 million loss in crop production.⁵⁶⁹

As of December 2006, the EPA lists Orange County in non-attainment of the NAAQS ozone levels. While there is currently no monitor for ozone in Orange County, the non-attainment status is based upon statistical modeling base on ozone monitors throughout the Triangle region.⁵⁷⁰

A2) Indoor Air Pollution

Impact

Chemical and biological air pollutants are found to some degree in every indoor building. They are known to cause eye and respiratory irritation and infection. Chronic illnesses, anxiety, or depression may result when individuals develop sensitivity to certain chemical and biological pollutants. Reactions to indoor air pollution may have immediate, long-term, or only negligible effects depending on the exposed individual and the particular pollutant.

⁵⁶⁵ US Environmental Protection Agency. Six Common Air Pollutants. Available at: <http://www.epa.gov/air/urbanair/>. (Accessed March 2007).

⁵⁶⁶ US Environmental Protection Agency. Nonattainment Areas Map. Air Data. Available at: <http://www.epa.gov/air/data/nonat.html?st~NC~North%20Carolina>. (Accessed March 2007).

⁵⁶⁷ US Environmental Protection Agency. Six Common Air Pollutants. Available at: <http://www.epa.gov/air/urbanair/>. (Accessed March 2007).

⁵⁶⁸ US Environmental Protection Agency. Nonattainment Areas Map. Air Data. Available at: <http://www.epa.gov/air/data/nonat.html?st~NC~North%20Carolina>. (Accessed March 2007).

⁵⁶⁹ US Environmental Protection Agency. Six Common Air Pollutants. Available at: <http://www.epa.gov/air/urbanair/>. (Accessed March 2007).

⁵⁷⁰ US Environmental Protection Agency. Nonattainment Areas Map. Air Data. Available at: <http://www.epa.gov/air/data/nonat.html?st~NC~North%20Carolina>. (Accessed March 2007).

Sources of indoor air pollution include outdoor sources; dust and dirt made airborne; combustion sources such as gas, oil, coal, wood, and tobacco; insulation containing asbestos; vapors from construction and finish materials in buildings; indoor surfaces and water reservoirs where bacteria and fungi can grow.⁵⁷¹

Data

Environmental Tobacco Smoke

Environmental Tobacco Smoke (ETS), often-called secondhand smoke, is smoke emitted from the burning end of a cigarette and exhaled by the smoker. ETS is a major source of indoor air contamination and is a complex mixture of over 4,000 of chemical compounds, many of which are known carcinogens and irritants. The role of tobacco smoke as a cause of various cancers, emphysema, chronic bronchitis and cardiovascular disease has been firmly established.⁵⁷²

A poll conducted by Elon University in April 2007 showed 65% of respondents said they would support a statewide law in North Carolina prohibiting smoking in public places.⁵⁷³ The following public places may also be exempt from the statute and can be designated nonsmoking: primary and secondary school systems, buses, elevators, hospitals, nursing homes, child care facilities, university campuses, local health departments, libraries, and museums.⁵⁷⁴ A new law passed in 2007 allows all local governments to make their buildings tobacco free (i.e., they can make their building or building and grounds non-smoking).

Orange County school systems and county offices are tobacco free. In 2006, the Orange County Board of Health requested that the Board of County Commissioners amend the smoking regulation ordinance to prohibit smoking on county office campuses which would include a 50 foot perimeter around buildings that house health and social service agencies. As of July 4th 2007, the UNC health care facilities are entirely tobacco free. The UNC campus will be smoke free as of January 1, 2008.

Many worksites, restaurants, and other venues in Orange County have adopted voluntary nonsmoking policies. In a 2007 survey of 227 restaurants in Orange County, 77.1% reported that they are smoke-free.⁵⁷⁵ Additionally, only 13% of Orange County residents currently smoke while 23% of the state's residents smoke.⁵⁷⁶

Combustion Products

In addition to ETS, combustion products such as improperly vented or poorly maintained heating systems can create dangerous levels of carbon monoxide. Scented candles and incense produce airborne soot particulates in addition to a variety of toxic organic

⁵⁷¹ US Environmental Protection Agency. The Inside Story: A Guide to Indoor Air Quality. EPA document # 402-K-93-007. April 1995. Available at: <http://www.epa.gov/iaq/pubs/insidest.html> (Accessed March 2007).

⁵⁷² Action on Smoking and Health. Passive Smoking: The impact on children. Available at: <http://www.ash.org.uk/html/passive/html/kidsbrief.html> (Accessed March 2007).

⁵⁷³ Elon University. Elon Poll. Available at: <http://www.elon.edu/e-web/elonpoll/100306.xhtml>. (Accessed March 2007)

⁵⁷⁴ General Assembly of North Carolina Session 2005. Session Law 2006-76 House Bill 1133. Available at: <http://www.ncga.state.nc.us/EnactedLegislation/SessionLaws/PDF/2005-2006/SL2006-76.pdf>. (Accessed April 2007)

⁵⁷⁵ Results of the Restaurant Heart Health Survey conducted by Orange County Health Department for the NC Department of Health and Human Services, Division of Public Health, Tobacco Prevention and Control Branch. 2007

⁵⁷⁶ NC State Center for Health Statistics. BRFSS Topics for Orange County. Available at: <http://www.schs.state.nc.us/SCHS/brfss/2005/oran/topics.html#tu>.

compounds. Carbon monoxide poisoning causes flu-like symptoms in healthy individuals and can be especially detrimental to fetuses, infants, and the elderly. Soot particulates irritate lung tissue and can act as vectors for other pollutants.⁵⁷⁷

Radon

Radon is a naturally occurring radioactive gas emitted from the ground. Radon gas and its decay particles are carcinogens. Radon enters homes through basement walls, foundations, cracks in the floors, drains, and other contacts with the underlying soil or rock.⁵⁷⁸ These particles can enter airways and damage cellular DNA, potentially leading to lung cancer. Smokers in households with high levels of radon are at particularly high risk. The USEPA advises homeowners to keep indoor radon levels to less than 4.0 pCi/L (picocuries per liter of air).

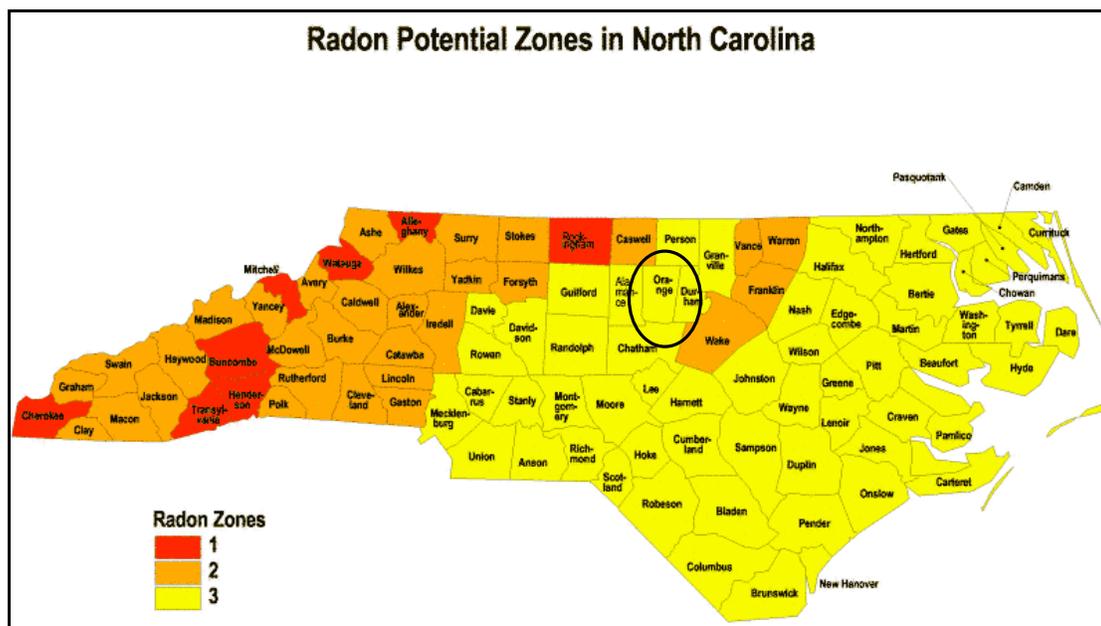


Figure 12, A2-1: Radon Potential in North Carolina⁵⁷⁹

Zone 1 indicates an average indoor radon screening level greater than 4 pCi/L.

Zone 2 indicates an average indoor radon screening level between 2 and 4 pCi/L.

Zone 3 indicates an average indoor radon screening level below 2 pCi/L

A national survey conducted in 1991 showed that the average indoor radon level is 1.3 pCi/L and the average ambient outdoor concentration is 0.4 pCi/L. As shown in Figure 1, elevated radon levels occur primarily in the Western part of the state due to the natural geology of the area. However, radon levels of up to 14 pCi/L have been detected in residences in Orange County.⁵⁸⁰ The EPA recommends that every home be tested regardless of where it is located. Orange County Health Department provides radon kits to residents who want to test the radon level in their home free of charge. Individuals can find out about ways to reduce indoor radon levels by contacting the Division of Radiation Protection in the NC Department

⁵⁷⁷ US Environmental Protection Agency. The Inside Story: A Guide to Indoor Air Quality. EPA document # 402-K-93-007. April 1995. Available at: <http://www.epa.gov/iaq/pubs/insidest.html> (Accessed March 2007).

⁵⁷⁸ US Environmental Protection Agency. A Citizen's Guide to Radon: The Guide to Protecting Yourself and Your Family from Radon. Available at: <http://www.epa.gov/radon/pubs/citguide.html>. (Accessed April 2007)

⁵⁷⁹ North Carolina Department of Environment and Natural Resources. NC Radon Program. Available at: <http://www.ncradon.org/>. (Accessed April 2007)

⁵⁸⁰ Ibid

of Environment and Natural Resources. Results from radon sampling conducted over the past 7 years in Orange County revealed that the majority of Orange County residences had safe levels of radon.⁵⁸¹

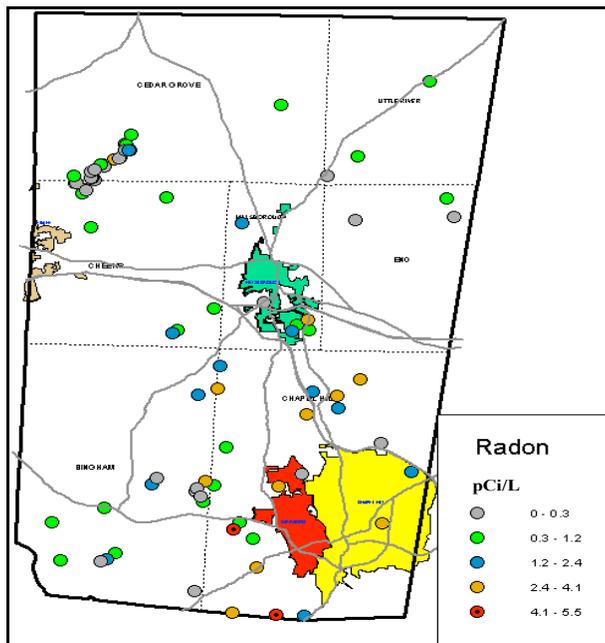


Figure 12, A2-2: Level of Radon in Orange County

Biological Contaminants

Most biological contaminants such as bacteria, molds, mildew, and dust mites typically thrive in warm, humid environments. These agents can trigger allergic reactions ranging from a runny nose to asthma. Bacterial endotoxins can cause fever, headache, chills, myalgia and malaise. Fungal mycotoxins may produce symptoms that range from short-term irritation to more serious health problems. If a central air handling system becomes contaminated, these biological contaminants can become airborne and distributed throughout the building. A relative humidity of 30 to 50% should be maintained in order to minimize these elements. Dryer and bathroom vents should be extended outside of the house and attics should be properly ventilated to prevent moisture buildup. In the event of floods or extensive plumbing problems, standing water and water damaged materials (such as carpet, padding, sheetrock, and insulation) should be removed as soon as is practical.⁵⁸²

Beginning in 2008, a position will be added in the Orange County Health Department in order to provide educational and consultative services for residents with indoor air quality issues. Corrective measures for mold and mildew problems generally involve eliminating the source of moisture and maintaining adequate ventilation. Remediation after a flood event may require extensive renovations, demolition, and reconstruction.

Solutions to Indoor Air Pollution

- Eliminate or minimize sources of pollution
- Increase ventilation to the outside air

⁵⁸¹ Data from testing conducted by Orange County Health Department, Environmental Health Division

⁵⁸² US Environmental Protection Agency. The Inside Story: A Guide to Indoor Air Quality. EPA document # 402-K-93-007. April 1995. Available at: <http://www.epa.gov/iaq/pubs/insidest.html> (Accessed March 2007).

- Maintain proper humidity levels in the indoor environment
- Filter indoor air

Health Indicators of Air Quality

Due to the lack of an efficient monitoring system it is impossible to assess the degree to which indoor and outdoor air quality are affecting the health of Orange County residents. However, rates of asthma and lung cancer in Orange County are slightly lower than the state averages.⁵⁸³

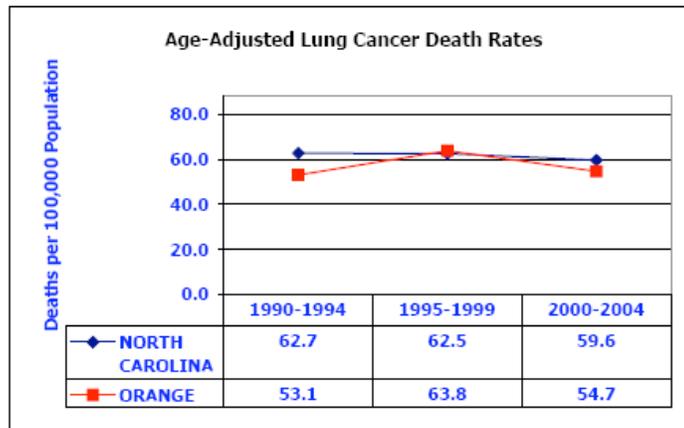


Figure 12, A2-3: Age-adjusted Cancer Death Rates⁵⁸⁴

Community Survey Results⁵⁸⁵

In the 2007 Community Health Assessment survey, air pollution was a top environmental concern for residents, with 35% of respondents citing air pollution among their top three environmental concerns. Global warming was also a top concern for 30% of residents citing it as one of their top three concerns. Development, a related issue, was the number one environmental concern among residents, with 57% citing it as one of their top three concerns. See Figure 12, A2-4 below.

⁵⁸³ NC State Center for Health Statistics. BRFSS Topics for Orange County. Available at: <http://www.schs.state.nc.us/SCHS/brfss/2005/oran/topics.html#tu>.

⁵⁸⁴ NC State Center for Health Statistics. North Carolina Statewide and County Trends in Key Health Indicators: Orange County. Available at: <http://www.schs.state.nc.us/SCHS/data/trends/pdf/Orange.pdf>. (Accessed April 2007).

⁵⁸⁵ These data are from the Orange County Community Health Assessment survey conducted by the Orange County Health Department, April, 2007. See appendix for survey content.

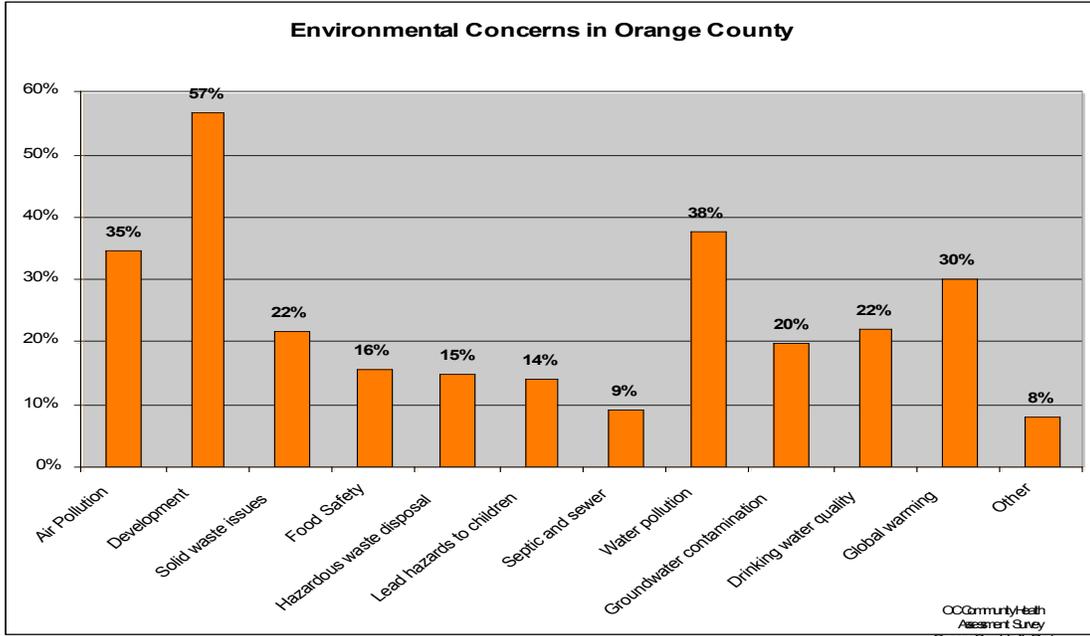


Figure 12, A2-4: Responses to the Survey question, "Which of these things stand out to you as important environmental issues in Orange County?" Choose three.

B) Water Quality

Healthy Carolinians 2010 Objectives for water quality:

There are no Healthy Carolinians objectives for water quality.

Impact

Water is a vital natural resource and the quality of water in Orange County can greatly affect the health of its residents. Because Orange County residents rely on both surface and ground water, it is critical that potential sources of pollution are identified in order to minimize contamination of these systems.

B1) Surface Water

Data

Rivers and streams in Orange County are part of the Neuse River Basin and the Cape Fear River Basin. All watershed areas in Orange County originate from within the county.

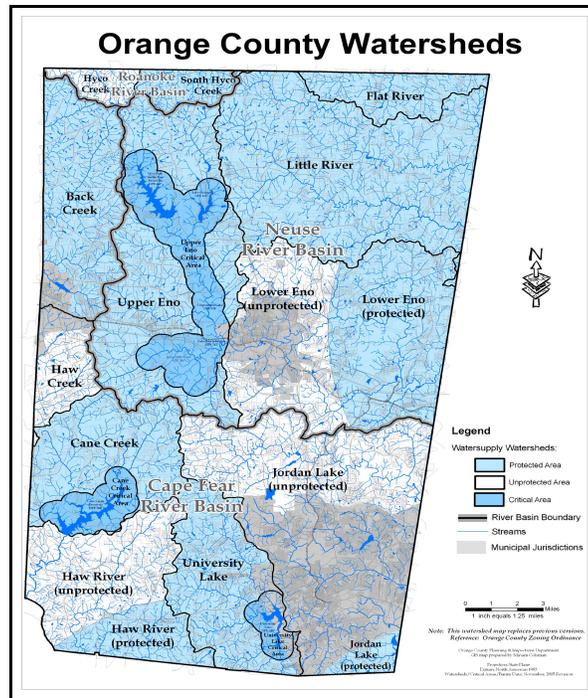


Figure 12, B1-1: Orange County Watersheds⁵⁸⁶

The North Carolina Division of Water Quality released basin-wide assessment reports of the Neuse River Basin in 2006 and the Cape Fear River Basin in 2004.

Neuse River Basin

Of the six Orange County sites monitored in the Neuse River Basin, three were given an overall rating of “Good-Fair,” two sites a rating of “Good,” and one as “Excellent.” One Eno River site near Cabes Ford decreased from a rating of “Excellent” in 2000 to “Good-Fair” in 2005. This is likely due to residual chlorine from upstream discharges from water treatment plants.⁵⁸⁷

⁵⁸⁶ Provided by Brian Carson, Orange County Planning Department.

⁵⁸⁷ North Carolina Department of Environment and Natural Resources. Division of Water Quality. Neuse River Basinwide Assessment. April 2006 Available at: <http://www.esb.enr.state.nc.us/Basinwide/Neuse06BasinReportFinal.pdf>. (Accessed April 2007)

Upper Neuse - Orange County Water Quality

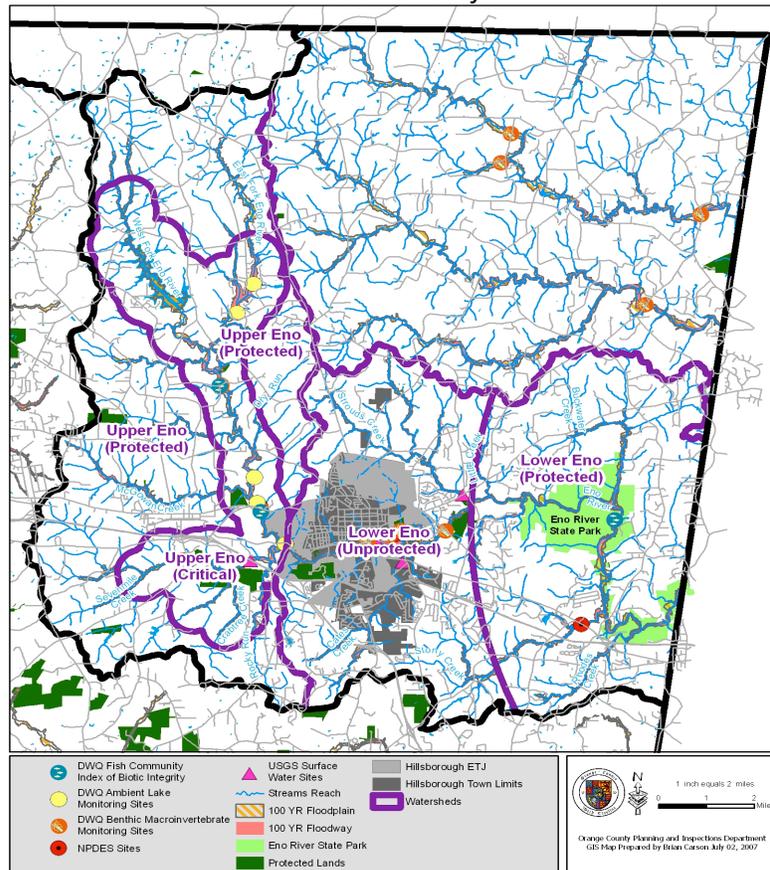


Figure 12, B1-2: Upper Neuse River Orange County Water Quality⁵⁸⁸

Cape Fear River Basin

The NC Division of Water Quality samples Orange County sites along Morgan Creek, Bolin Creek, and University Lake within the Cape Fear River Basin. Streams in this area typically dry up during periods of drought due to the lack of groundwater recharge. Five sections of creeks in this basin are not meeting water quality standards due to impaired biological integrity and are listed as impaired according to the North Carolina Division of Water Quality.⁵⁸⁹ The impaired sections of Booker Creek, Bolin Creek, and Meeting of the Waters can be seen in the figure below. Note that while Morgan Creek is shown to be impaired in the figure, it has since been removed from the impaired listing.⁵⁹⁰ Both Jordan and University Lake are well nourished during the summer months.^{591,592} This can lead to harmful algal

⁵⁸⁸ Provided by Brian Carson, Orange County Planning Department.

⁵⁸⁹ North Carolina Department of Environment and Natural Resources. Division of Water Quality. Basinwide Assessment Cape Fear River Basin. August 2004 Available at:

<http://www.esb.enr.state.nc.us/Basinwide/CPF%202004%20Report%20Final.pdf>. (Accessed April 2007)

⁵⁹⁰ N.C. Division of Water Quality. Modeling and TMDL Unit: The NC Water Quality Assessment and Impaired Waters List (305(b) and 303(d) Report). Available at: http://h2o.enr.state.nc.us/tmdl/General_303d.htm. (Accessed April 2007)

⁵⁹¹ North Carolina Department of Environment and Natural Resources. Division of Water Quality. Basinwide Assessment Cape Fear River Basin. August 2004 Available at:

<http://www.esb.enr.state.nc.us/Basinwide/CPF%202004%20Report%20Final.pdf>. (Accessed April 2007)

blooms and result in fish kills. In 2006 there were two incidents of fish kills in Orange County.

593

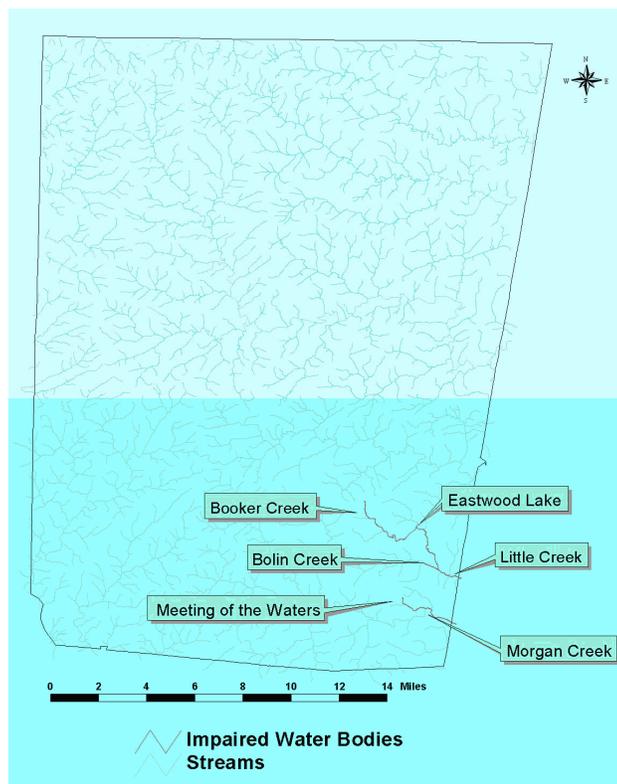


Figure 12, B1-3: Impaired Water Bodies in Orange County, 2004⁵⁹⁴

There are currently several community groups that play a vital role in the protection and monitoring of Orange County's waterways. These groups include:

- Haw River assembly
- Friends of Bolin Creek
- Friends of Duke Forest
- Eno River Association

⁵⁹² Haw River Assembly. Available at: <http://www.hawriver.org/index.php?topgroupid=&groupid=26&PHPSESSID=aa9e20a2692105b88849469482cdd9e>. (Accessed April 2007)

⁵⁹³ North Carolina Department of Environment and Natural Resources. Division of Water Quality. Fish Kill Event Update. Available at: <http://h2o.enr.state.nc.us/esb/Fishkill/fishkillmain.htm>. (Accessed April 2007)

⁵⁹⁴ Orange County Environment and Resource Conservation Department. Orange County 2004 State of the Environment Report. Available at: <http://www.co.orange.nc.us/ercd/stateofenvironment/soeacrobat.htm> (Accessed April 2007)

B2) Drinking Water

Data

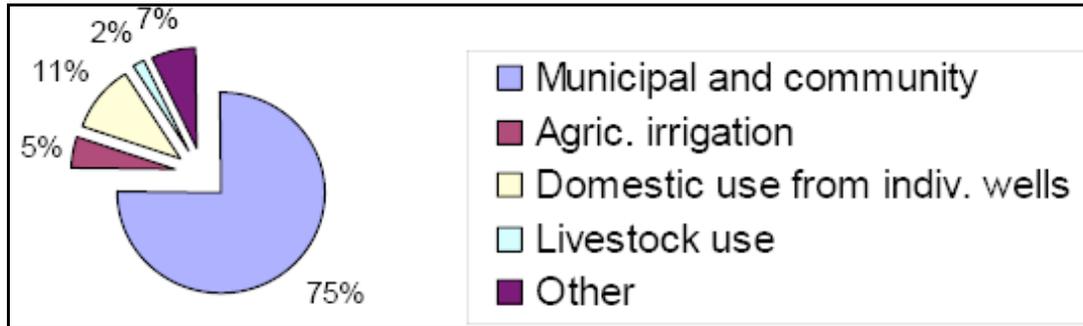


Figure 12, B2-1: Distribution of Total Water Demand for Orange County, 2000⁵⁹⁵

	Ground	Surface	Total
Municipal and Community	0.52	12.44	12.96
Irrigation	0.22	0.59	0.81
Domestic Use from Wells	1.94	--	1.94
Livestock use	0.24	0.06	0.3
Other	0.3	0.88	1.18
Total	3.22	13.97	17.19

Table 12, B2-1: Water Usage in Millions of Gallons per Day for Orange County, 2000⁵⁹⁶

Orange County residents rely on Orange Water and Sewer Authority (OWASA), Hillsborough Water System, Orange-Alamance Water System, and private wells for their drinking water. Cane Creek Reservoir, University Lake, the Stone Quarry Reservoir, Lake Ben Johnston, Corporation Lake, and Lake Orange are the surface water drinking water reservoirs for Orange County.⁵⁹⁷

Drinking Water Contaminants

Microbial contaminants, such as viruses and bacteria, may come from wastewater treatment plants, septic systems, agricultural livestock operations, and wildlife. Inorganic contaminants, such as salts and metals, can occur naturally or result from storm water runoff, wastewater discharges, industrial activities, and farming. Organic chemical contaminants, such as pesticides, herbicides, and other petroleum products, typically contaminate drinking water sources via storm water runoff.

⁵⁹⁵ Ibid

⁵⁹⁶ USGS North Carolina Water Science Center. Water-use Data Tables, 2000. Available at: http://nc.water.usgs.gov/wateruse/data/Data_Tables_2000.html. (Accessed April 2007)

⁵⁹⁷ Orange County Utilities Guide: Water and Sewer Providers. Available at: <http://www.co.orange.nc.us/ecodev/utlguide/water.htm>. (Accessed May 2007).

OWASA

In 2007, OWASA tested its drinking water quality. All contaminants detected were well below the federal and state standards. However, Cane Creek Reservoir and University Lake were determined to be moderately susceptible to contamination in this study.⁵⁹⁸

From July 2005 through June 2006, there were two known wastewater spills totaling 145 gallons from the OWASA wastewater system (down from 81,665 gallons in FY 2004/2005). While these spills represent a small fraction of the total volume of sewage treated by OWASA, wastewater spills allow potentially harmful pathogens and excess nutrients into the surface waters.⁵⁹⁹

B3) Groundwater

Data

Private wells account for the water supply for approximately 40 percent of the population in Orange County.⁶⁰⁰ Approximately 350 new drinking water wells are constructed every year in Orange County.

The Orange County Board of Health adopted the state's first local well construction programs in North Carolina in 1980. The scope of this program has since expanded to encompass groundwater protection. The well construction standards exceed those of the state's 2C Well Construction Regulations with respect to the type and amount of casing required in new well construction and have more stringent well siting criteria. In 2008, the groundwater protection program in Orange County will be expanded to require more inspections of wells during construction and will require sampling of all new wells.

Potential sources of ground water contamination include leaky storage tanks, septic systems, hazardous waste sites, and landfills.

Documented groundwater contamination events in Orange County are illustrated below. Most of these contamination events are due to leaking underground storage tanks for home heating oil and petroleum products.

⁵⁹⁸ Orange Water and Sewer Authority. Water Quality 2004 Report Card. Available at: <http://www.owasa.org/pages/wgreport04/2004wgreport.html>. (Accessed May 2007)

⁵⁹⁹ Orange Water and Sewer Authority. Wastewater Collection and Treatment 2005-6 Annual Report. Available at: http://owasa.org/pages/2005-06_Annual_Report.html. (Accessed May 2007)

⁶⁰⁰ Investigation of Groundwater Availability and Quality in Orange County, North Carolina. U.S Geological Survey Available at: <http://nc.water.usgs.gov/reports/wri004286/pdf/report.pdf>

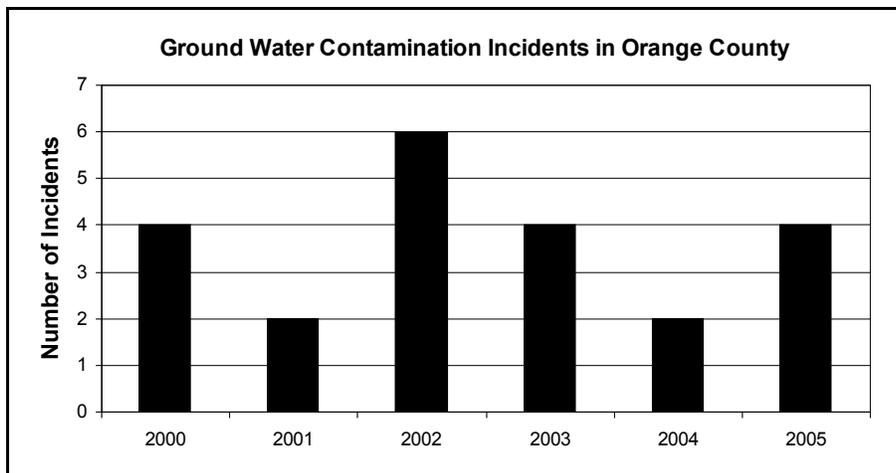


Figure 12, B3-1: Ground Water Contamination Incidences in Orange County⁶⁰¹

Well Water Quality

The Orange County Health Department provides sampling of private wells to assist homeowners in assessing the safety and quality of their drinking water. Samples are analyzed at the State Laboratory of Public Health and results are reported to the well owners. The following paragraphs represent the results of private well sampling from 2002 to 2005.

Coliform Bacteria is a standard indicator of drinking water quality used to indicate whether a well is properly protected from biological contaminants. Total coliform and fecal coliform are associated with the intestinal tract of warm-blooded animals and are not considered to be harmful, but are used by the labs as indicator bacteria for the presence of other, harmful bacteria. The presence of coliform bacteria indicates that surface water contamination is present in a well, either through a shallow, unprotected vein of water (generally less than 60 feet from the ground surface), or from an inadequate length of casing or other well construction deficiency. Current Orange County well construction standards require at least 63 feet of casing on all new drilled wells. Since enacting this requirement, there has been a marked decrease in the instances of fecal coliform contamination of new wells.⁶⁰²

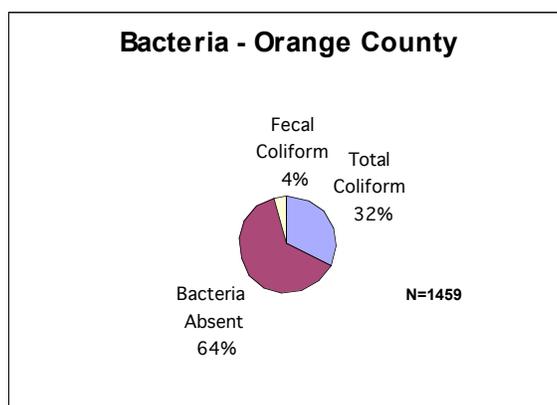


Figure 12, B3-2: Presence of Bacteria in Orange County Wells

⁶⁰¹ North Carolina Department of Environment and Natural Resources. Division of Water Quality. Groundwater Section. Available at: <http://its.enr.state.nc.us/gwi/>. (Accessed May 2007)

⁶⁰² Orange County Health Department. Cancer Prevalence Assessment Water Quality Assessment Mill Creek Road Area.

Because coliform is used as an indicator of contamination, a well with persistent coliform bacteria or with fecal coliform present should be considered an unsafe source of drinking water. The presence of coliform indicates that conditions are favorable for the presence of other bacteria that can cause health problems such as diarrhea, upset stomach, cramps, and vomiting.⁶⁰³

Arsenic is a naturally occurring element in the soil and rock formations that can leach into the groundwater. It can also be associated with agricultural activities and various industrial processes. Arsenic found in the groundwater of Orange County is considered to be naturally occurring as there are few industrial sources of arsenic in the county.⁶⁰⁴

The EPA recommended drinking water limit for Arsenic is 0.01 mg/l, however the NC Department of Environment and Natural Resources recommends a limit of 0.00002 mg/l. The lowest level of Arsenic that the state public health laboratory can detect is 0.001 mg/l

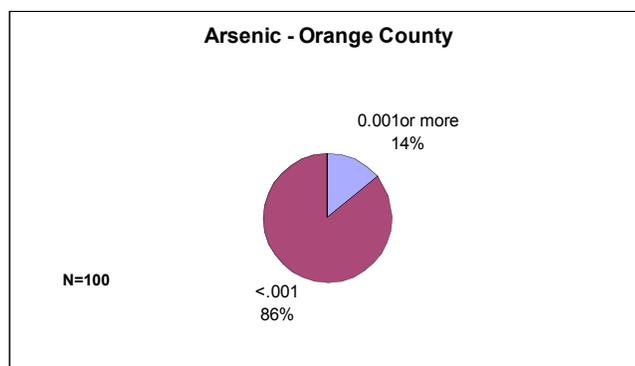


Figure 12, B3-3: Presence of Arsenic in Orange County

Several studies have shown that long-term exposure to inorganic arsenic can increase the risk of lung cancer, skin cancer, bladder cancer, liver cancer, kidney cancer, and prostate cancer. Long-term exposure is defined as the consumption of two liters of water each day over a period of 70 years.⁶⁰⁵

Other common groundwater contaminants:

Iron occurs naturally in groundwater and is the most common source of nuisance problems with well water in Orange County. While not considered a health risk, levels of iron above 0.3 mg/l can cause the water to have a red or brown muddy appearance and can stain white plumbing fixtures and clothes. Of 1,208 recent well water samples collected by the Health Department, 47% of the samples had iron levels exceeding the recommended EPA limit for drinking water of 0.3 mg/l.⁶⁰⁶

Manganese is an element that dissolves in water from the natural rock formations. Manganese levels above 0.05 mg/l can turn well water black or brown and stains plumbing fixtures and clothes. Of 1,208 recently sampled wells, 27% were in excess of the recommended level for manganese.⁶⁰⁷

⁶⁰³ Ibid

⁶⁰⁴ Ibid

⁶⁰⁵ Ibid

⁶⁰⁶ Orange County Health Department. Sampling results and records.

⁶⁰⁷ Ibid

pH is a measure of how basic or acidic water is. With a pH below 6.5, the water is considered acidic and there could be concerns about corrosion of plumbing components resulting in lead leaching into the water from soldered joints. Water with a low pH can also react with copper pipes to cause blue-green stains and a metallic taste. Approximately 14% of the wells tested in Orange County have a pH below the recommended limit while less than 4% have elevated copper or lead levels.⁶⁰⁸

Radon is a naturally occurring radioactive gas found in most of NC's groundwater, especially in the Piedmont area where granite is common. Direct exposure of radon in water is of little concern for health effects, however once aerosolized in the air, it can contribute to an increase risk for lung cancer. Remedies include proper ventilation of bathrooms and kitchen areas where water may aerosolize.

The recommended drinking water limit for radon is:

- 300 PicoCuries per Liter (pCi/L) for states that have no EPA approved radon in indoor air program,
- 4000 PicoCuries per Liter (pCi/L) for states that have a radon in indoor air program.

Orange County does not have a radon indoor air program. Of 142 wells tested for radon in Orange County, 41% contained radon levels in excess of 300 pCi/L.⁶⁰⁹

Community Survey Results⁶¹⁰

Results from the 2007 Community Health Assessment indicate that water quality is a major concern for Orange County residents. Water pollution was the second most important environmental concerns among residents, with 38% citing water pollution among their top three concerns. Drinking water quality, in specific, was a concern among 22% of residents and ground water contamination was a concern among 20% of residents surveyed. See Figure 12, A2-3 under air pollution.

C) Food Safety

The Healthy Carolinians 2010 Objectives for food safety are:

Increase the number of local health departments making 100 percent of the inspections of food and lodging required by statute (GS 138.248)

Decrease the proportion of critical item violations found in food, lodging and institutional facilities.

Due to a delay in implementing an adequate tracking system for the food & lodging inspection program, the health department is unable to track the number and type of critical item violations. It is anticipated that a tracking system may be made available in 2008.

Impact

Food borne diseases are caused by the improper processing, preparation, or storage of foods. The ingestion of pathogens in food can cause severe illness and death. While many think of only gastro-intestinal problems related to food borne illnesses, serious consequences such as reactive arthritis and neurological damage may result from some food borne

⁶⁰⁸ Ibid

⁶⁰⁹ Ibid

⁶¹⁰ These data are from the Orange County Community Health Assessment survey conducted by the Orange County Health Department, April, 2007. See appendix for survey content.

diseases. Food handling practices, infected food-handlers, improper food holding temperatures, hand washing frequency, cross contamination of food contact surfaces, presence of rodents and insects and improper sanitation of food contact surfaces can all result in food borne illness.⁶¹¹

Data

	2004-05	2005-06	2006-07
Required Inspections Completed (Total # of Facilities)	94% (744)	90% (756)	78% (750)
Communicable Disease Outbreak Investigations in Inspected Facilities	3	2	0
Educational Schools Sponsored or Participated in (Number of Students) (Passing Rate on ServeSafe Exam)	4 (120) (90%)	4 (280) (85%)	2 (106) (87%)

Figure 12, C-1: Orange County Health Department Food and Lodging Program Activities from 2004-2007

While Orange County Health Department investigates several food related complaints per month, few of these rise to the level of a full food borne outbreak investigations. In 2006, there were two significant food borne outbreaks investigated by the Health Department and the EPI Response Team. The first was a Norovirus outbreak linked to a UNC campus food service facility and the second was an E. coli outbreak linked to a Chapel Hill restaurant.⁶¹²

Community Survey Results⁶¹³

Results from the 2007 Community Health Assessment indicate that the majority of residents pay attention to the restaurant sanitation grades with 56% of respondents stating that they always look for the sanitation grade and 27% stating that they sometimes look are the sanitation grade. While, 82% of respondents stated that the grade effects their decision on where to dine. See Figures 21, C-1 and 12, C-2 below.

⁶¹¹ Healthy Carolinians 2010, North Carolinas Plan for Health and Safety, pg 92

⁶¹² Orange County EPI Team reports: Norovirus Outbreak, UNC-CH Campus Health Services, January 2006; and E. coli 0157:H7 Outbreak, November 2006.

⁶¹³ These data are from the Orange County Community Health Assessment survey conducted by the Orange County Health Department, April, 2007. See appendix for survey content.

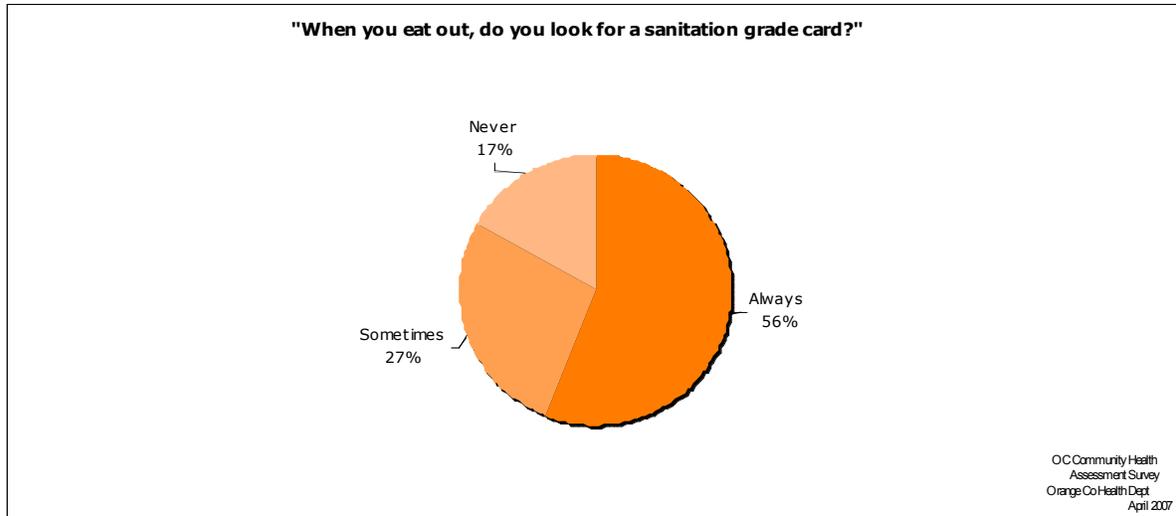


Figure 12, C-1: Response to the question "When you eat out, do you look for a sanitation card?"

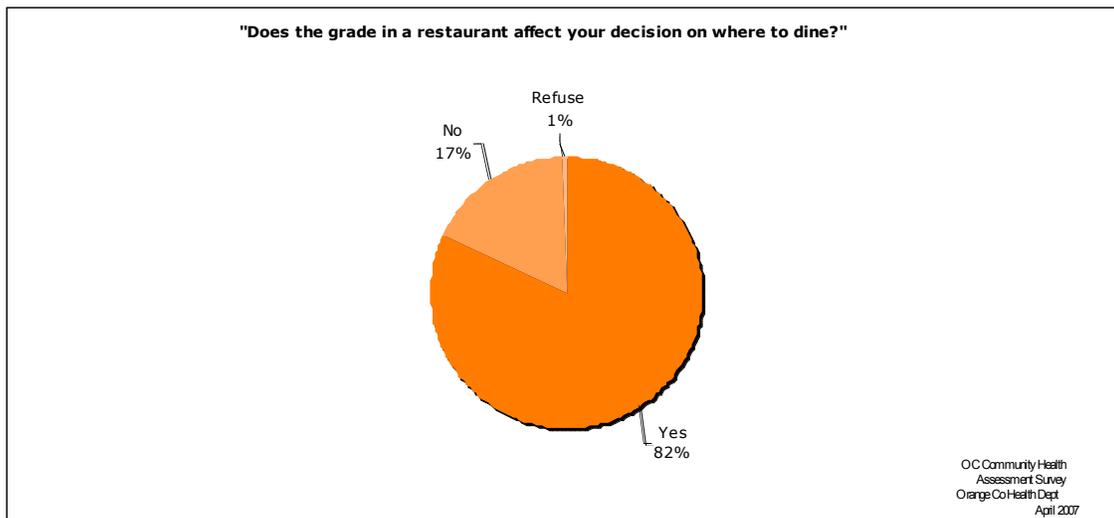


Figure 12, C-2: Response to the question "Does the grade in a restaurant affect your decision on where to dine?"

D) Physical Environment

The Healthy Carolinians 2010 Objectives related to the built environment are:

There are no Healthy Carolinians objectives related to the built environment.

Impact

The built environment can have a profound affect on human health and the health of the natural environment. According to the National Institute of Environmental Health Sciences, "the built environment encompasses all of the buildings, spaces, and products created or modified by people. For example: buildings (housing, schools, workplaces); land use (industrial or residential); public resources (parks, museums); zoning regulations; and transportation systems."⁶¹⁴ A community's design has a direct impact on where people live, where people work, how they get around, how much pollution they produce, what kind of

⁶¹⁴ National Institute of Environmental Health Sciences. Accessed on October 23, 2007, at <http://www.niehs.nih.gov/health/topics/index.cfm>.

environmental hazards they face, and what amenities they enjoy. According to the Centers for Disease Control, healthy places are those designed and built to improve the quality of life for all people who live, work, worship, learn, and play within their borders - where every person is free to make choices amid a variety of healthy, available, accessible, and affordable options.⁶¹⁵

There is increasing evidence that our environments present many barriers to physical activity and good nutrition, which may contribute to the rise of obesity and other co-morbidities such as cardiovascular disease, diabetes and stroke. For example, our physical activity levels are shaped by the availability of transportation options such as sidewalks and bus routes, and accessibility of various nearby destinations and multiple recreational opportunities. Communities with open green space and various types of destinations close to each other make it easier for residents to incorporate physical activity into their daily routine. In addition, a network of transportation systems that include sidewalks, bike paths, safe intersections, crosswalks, and public transportation provide people with safe and convenient opportunities to be active. Likewise, our food choices are shaped by the marketing environment, availability and accessibility of quality, affordable healthy food choices and time available to cook. Creating environments that promote and make it convenient to be more physically active and make healthy food choices can lead to a significant improvement in people's health.

In addition, the built environment impacts other environmental health factors particularly air and water quality, as well as likelihood of injury. Communities that promote alternative forms of transportation and provide safe places for people to walk and bike can encourage residents to safely use alternatives other than driving, thus reducing the amount of traffic congestion, noise, and air pollution caused by traffic.

Data

Sidewalks, Bike Lanes and Greenways

In 2006 the BRFSS added an environmental policy related question to the survey. The question asked, "Do you believe that you would increase your physical activity if your community had more accessible sidewalks or trails for walking and bicycling?" Sixty-six percent of Orange County respondents said "Yes" to this question.

- In 2006, the town of Carrboro reported a total of 62 miles of sidewalk and 48 miles of bike lanes (counting bike lanes on both sides of the road).⁶¹⁶
- In 2006, the Town of Chapel Hill reported a ratio of 131:273, sidewalks to roads. Since 2006, the Town of Chapel Hill has increased the number of sidewalks; however the specific number is unavailable. Chapel Hill also reported 12.4 miles of greenways and trails open to the public. In 2005, the Town of Chapel Hill completed its 3rd Mobility Report card to monitor and track progress towards its goal to enhance mobility for all citizens. The report evaluates vehicle use, pedestrian and bicycle activity and transit in Chapel Hill. The full report and findings can be found at: <http://www.ci.chapel-hill.nc.us/DocumentView.asp?DID=1597>.⁶¹⁷
- In 2007, the Town of Hillsborough reported 7.2 miles of paved sidewalk, one paved private greenway and two privately owned green space that is open to the public.⁶¹⁸

⁶¹⁵ Centers for Disease Control. Accessed on October 23, 2007 at <http://www.cdc.gov/healthyplaces/>.

⁶¹⁶ Personal communication with Jennifer Gilchrist-Walker, Active Living by Design.

⁶¹⁷ Personal communication with Town of Chapel Hill, Planning Department.

⁶¹⁸ Personal communication with Town of Hillsborough, Planning Department.

Recreational Opportunities

See Chapter 4: Recreation for additional information on access to recreational opportunities in the Orange County.

Alternative Transportation

See Chapter 4: Transportation for additional information on access to public transportation systems in Orange County.

Opportunities for Healthy Eating

In addition to grocery stores, and restaurants, Farmer's Markets can be a source of local, fresh foods for community members. Orange County has three local farmers markets: one in downtown Carrboro, one in Chapel Hill in the Southern Village neighborhood, and one in downtown Hillsborough.

Some of the farmers at all three Farmer's Market locations now accept Farmer's Market Nutrition Program (FMNP) coupons.⁶¹⁹ The FMNP was established by Congress in July 1992, to provide fresh, nutritious, unprepared, locally grown fruits and vegetables to Women Infants and Children Nutrition Program (WIC) participants, and to expand the awareness, use of and sales at Farmers' Markets. Eligible WIC participants are issued FMNP coupons in addition to their regular WIC food instruments. These coupons are used to buy fresh, unprepared locally grown, fruits, vegetables and herbs from farmers, farmers markets' and roadside stands that have been approved by the State agency to accept FMNP coupons.

Resources

The Orange County Commission for the Environment

Go! Chapel Hill Project

Walkable Hillsborough Coalition

Active Living by Design

Safe Routes to School Programs

Carrboro, Chapel Hill and Orange County's Recreation and Parks Departments

Town of Carrboro, Chapel Hill and Hillsborough Transportation and Planning Departments

E) Toxic Chemical Releases

The Healthy Carolinians 2010 Objectives related to toxic chemical releases are:

Increase the number of high-risk one and two-year old children, enrolled in Medicaid, screened for lead poisoning to 100%

In Orange County in 2006, 36% of children ages 1 and 2 years enrolled in Medicaid were screened for lead poisoning.⁶²⁰

Reduce the percent of one and two-year old children with blood lead levels greater than or equal to 10 micrograms per deciliter to less than .5%.

In Orange County in 2006, .05% or 3 children ages 1 and 2 years had blood lead levels greater or equal to 10 micrograms.⁶²¹

⁶¹⁹ Personal communication with Carrboro Farmer's Market and Hillsborough Farmer's Market.

⁶²⁰ 2006 NC Childhood Blood Lead Surveillance data prepared by CEHB.

⁶²¹ US Environmental Protection Agency. The Inside Story: A Guide to Indoor Air Quality. EPA document # 402-K-93-007. April 1995. Available at: <http://www.epa.gov/iaq/pubs/insidest.html> (Accessed March 2007).

Lead Poisoning

Impact

Major potential sources of airborne lead are lead smelters, waste incinerators, and lead-acid battery manufacturers. Orange County has very little industrial development which could contribute to increased airborne lead levels. The most common lead exposure for children in Orange County is lead based paint and household products containing lead. Inhalation and ingestion of lead impact mental development in fetuses and infants. Elevated blood lead levels in children under the age of 6 can result in learning difficulties and reduced intelligence and attention span. At higher levels of lead exposure there is increased risk for heart disease and damage to vital organs.⁶²² Studies have shown that housing built prior to 1950 and households with incomes below the poverty threshold have an elevated risk of lead contamination.

Data

In 2006, 550 children ages one and two year olds in Orange County were tested for lead poisoning, with only 36% of Medicaid enrolled children being tested. Of the children tested, 3 or .05% had blood lead levels in the range of 10 to 19 micrograms per deciliter, compared to 1.4% in 2005. No children under the age of six had elevated blood lead levels above 20 micrograms per deciliter in that same year.⁶²³

It appears from the data, that health care providers in Orange County could be doing a better job of testing for lead in young children, especially among the population who are enrolled in Medicaid. Recent large scale recalls of children's toys may impact testing rates due to heightened public awareness.

Annual Emissions

Impact

The industries in Orange County currently producing toxic chemicals are manufacturers of plastics and electronic equipment. The emissions in Orange County are made up of four types of chemicals: zinc compounds, antimony compounds, styrene, and copper. Chronic (long-term) exposure to styrene in humans results in effects on the central nervous system (CNS), such as headache, fatigue, weakness, depression, CNS dysfunction, hearing loss, and peripheral neuropathy. Zinc is suspected to negatively affect the immune system and respiratory tract. Short-term exposure to antimony causes skin and eye irritation. Long-term exposure via inhalation can result in a variety of respiratory problems, such as inflammation of the lungs, chronic bronchitis and emphysema. Copper is a blood toxicant and is suspected to damage the kidneys and liver.^{624,625}

⁶²² Environmental Defense. Scorecard. Pollution Locator. Lead Hazards: A National Overview. Available at: http://www.scorecard.org/env-releases/def/lead_gen.html. (Accessed March 2007)

⁶²³ Ibid.

⁶²⁴ Environmental Defense. Scorecard. Pollution Locator. Chemical Profiles. Available at: <http://www.scorecard.org/chemical-profiles/index.tcl>. (Accessed May 2007)

⁶²⁵ US Environmental Protection Agency. Technology Transfer Network. Air Toxics Website. Styrene. Available at: <http://www.epa.gov/ttn/atw/hlthef/styrene.html>. (Accessed May 2007)

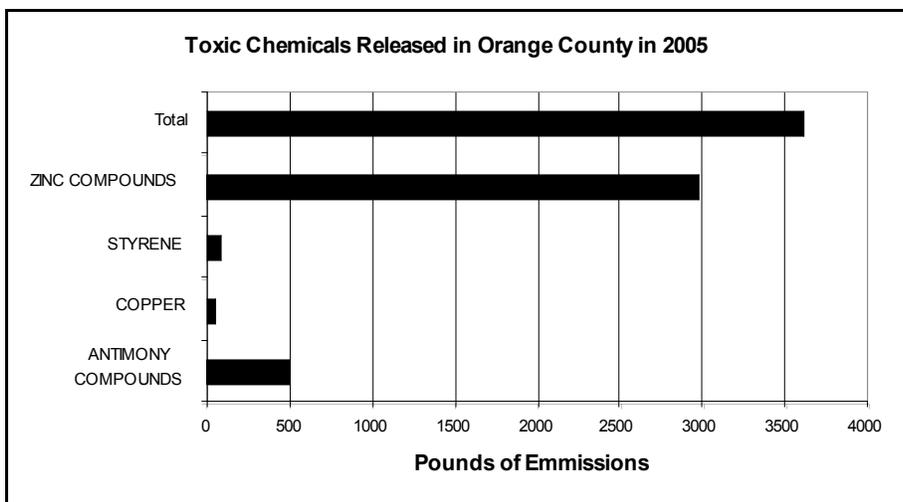


Figure 12, E-2: Toxic Chemicals Released in Orange County, 2005⁶²⁶

Data

According to the Toxic Release Inventory, an EPA database of toxic chemical emissions, Orange County emitted 3,597 pounds of toxic chemicals into the air in 2005. While Orange County's emissions have increased in the past few years, the levels remain far below those of the early nineties.⁶²⁷

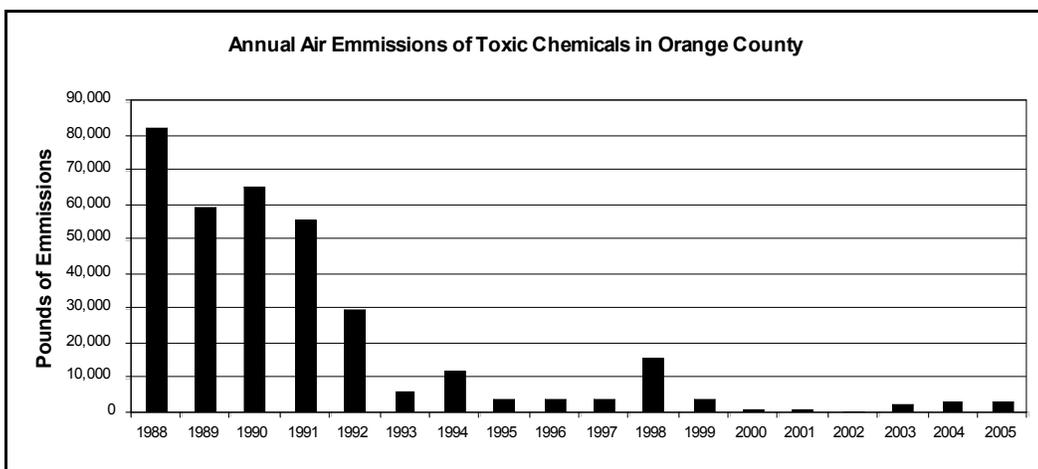


Figure 12, E-1: Annual Air Emissions of Toxic Chemicals in Orange County

Superfund Sites

No waste sites in Orange County are on EPA's National Priority List of Superfund sites.⁶²⁸

Brownfield Sites

Brownfield sites are properties that are not being redeveloped or reused due to the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up these

⁶²⁶ US Environmental Protection Agency. Toxic Release Inventory Explorer. Chemical Report. Available at: <http://www.epa.gov/triexplorer/>. (Accessed May 2007)

⁶²⁷ US Environmental Protection Agency. Toxic Release Inventory Explorer. Chemical Report. Available at: <http://www.epa.gov/triexplorer/>. (Accessed May 2007)

⁶²⁸ Environmental Defense. Scorecard. Pollution Report Card. Orange County. Available at: http://www.scorecard.org/community/index.tcl?zip_code=27516&set_community_zipcode_cookie_p=t. (Accessed March 2007)

properties takes development pressures off of undeveloped, open land, and therefore simultaneously improves and protects the environment.⁶²⁹ There are currently three completed and one active Brownfield site projects in Orange County.⁶³⁰

Other Contaminated Sites

Orange County contains five of the state's 255 known sites with dry-cleaning solvent contamination.⁶³¹ There are three inactive hazardous sites in Orange County.⁶³²

The Underground Storage Tank Section of the Division of Waste Management keeps an inventory of leaking underground tanks and known releases in Orange County. Most of these tanks contained home heating oil, or other petroleum products. Currently there are 172 sites that have been successfully closed out while 246 remain on active status. They report that a total of 76 water supply wells have been contaminated by these releases.

F) Waste Management

The Healthy Carolinians 2010 Objectives related to waste management are:

There are no Healthy Carolinians Objectives related to waste management.

Solid Waste

Data

Orange County disposed of 88,062 tons of municipal solid waste in the 2003-2004 fiscal year. Orange County experienced a 46% reduction in per capita waste production from its 1991-1992 levels, while the state experienced an 18% increase during the same time period.

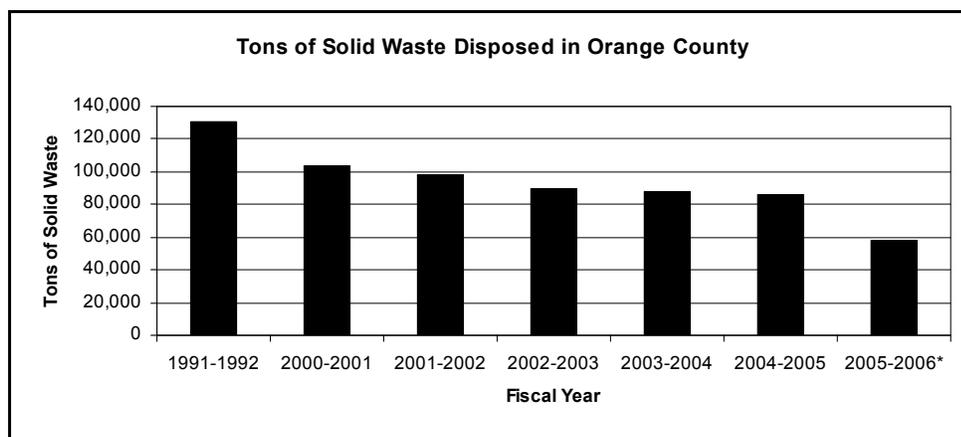


Figure 12, F-1: Tons of Waste Disposal in Orange County as of 6/5/06^{633,634,635}

⁶²⁹ US Environmental Protection Agency. Brownfields Cleanup and Redevelopment. Available at: <http://www.epa.gov/brownfields/>. (Accessed May 2007)

⁶³⁰ NC Division of Waste Management. Brownfields Program. Available at: http://www.ncbrownfields.org/project_inventory.asp. (Accessed May 2007)

⁶³¹ NC Division of Waste Management. Annual Report to the Environmental Review Commission North Carolina General Assembly. The Dry-Cleaning Solvent Cleanup Act Program. October 2006. Available at: <http://www.wastenotnc.org/SFHOME/DryClean/Download/AnnualReports/2006DSCAAnnualReport.pdf>. (Accessed May 2007)

⁶³² NC Division of Waste Management. Inactive Hazardous Sites Inventory by County. Available at: http://www.wastenotnc.org/SFHOME/IHS_County_List.pdf. (Accessed May 2007)

⁶³³ NC Division of Waste Management. Appendix B: County Population, Waste Disposal, Per Capita Rate and Percent Reduction, FY 2003-2004. Available at: <http://www.wastenotnc.org/SWHOME/AppendixB03-04.pdf>. (Accessed May 2007)

Type of Material	Tons	Percent
Material Buried		
Municipal Solid Waste	56,303	77%
Construction and Demolition Waste	15,705	22%
Water treatment plant sludge	5	<0.01
Stumps and inert debris	224	<1
Mobile Homes	135	<1
Total Buried	72,372	100%
Recovered at Landfill		
Vegetative Waste	9,106	70%
White Goods	430	3%
Tires	1,231	9%
Scrap Metal	746	6%
Clean Wood	1,586	12%
Total Recovered from Landfill	13,099	100%
Total Managed at Landfill	85,471	

Table 12, F-1: Type and Amount of Material Managed at Orange County Landfills 2004-2005⁶³⁶

Recycling Data

Orange County currently serves 17,600 single family residences with curbside recycling programs. Over 90% of all apartment complexes have source-separated recycling programs and over 100 businesses are offered collection of glass bottles, metal cans, plastic bottles, and food waste collection. There are a total of eleven drop-off recycling sites throughout the county. Household hazardous waste may be dropped off by Orange County residents at the Household Hazardous Waste collection facility on Eubanks Road.⁶³⁷

Type of Material Recycled	Tons	Percent
Mixed Paper	6,196	49%
Corrugated Cardboard	1,223	9%
Glass	2,619	20%
Plastic Bottles	493	4%
Metal Cans	339	3%
Hazardous Waste	487	4%
Organic Matter	1,917	11%

⁶³⁴ Orange County, NC. Solid Waste Management Department. Collection Statistics. Available at: <http://www.co.orange.nc.us/recycling/stats.asp>. (Accessed May 2007)

⁶³⁵ North Carolina Department of Environment and Natural Resources. Municipal Solid Waste Landfill Capacity. October 1, 2006. Orange County. Available at:

<http://www.efc.unc.edu/publications/pdfs/Landfill%20Capacity%20Sheets/OrangeLC.pdf>. (Accessed May 2007)

⁶³⁶ Orange County, NC. Solid Waste Management Department. Collection Statistics. Available at: <http://www.co.orange.nc.us/recycling/stats.asp>. (Accessed May 2007)

⁶³⁷ Ibid

Office Paper	104	1%
Total recycled by OCR	13,378	100%

Table 12, F-2: 2004-2005 tons of materials managed by Orange Community Recycling Division⁶³⁸

Wastewater Treatment Data

There are two municipal wastewater treatment plants located in Orange County; Orange Water and Sewer Authority (OWASA), which serves Chapel Hill, Carrboro, the University, and very limited areas outside of the municipal jurisdictions. Hillsborough's wastewater plant serves the Hillsborough area as well as parts of Efland.

Other areas of the county are served with sewer by the cities of Durham and Mebane; however, their treatment plants are not located within Orange County.

Wastewater Treatment Facilities in Orange County			
	Maximum Capacity (million gal/day)	Average Daily Load (million gal/day)	Maximum Load (million gal/day)
OWASA	9.0	7.5	8.5
Hillsborough	3.0	1.2	2.0

Table 12, F-3: Wastewater Treatment Facilities in Orange County⁶³⁹

Between 30 and 40% of Orange County population is served by privately owned septic systems. According to activity tracked by the Orange County Health Department, there are roughly 275 new septic systems installed per year. Sixty-four failing septic systems were repaired or replaced in 2006.

The Health Department conducts inspections of existing septic systems through the Wastewater Treatment Management Program (WTMP). Septic systems are inspected on a one, three, or five year frequency based on system type and complexity. The current program requires inspections of septic systems with pumps, pretreatment, and innovative components. Four hundred and twenty septic systems were inspected in 2006 through the WTMP Program. The following chart represents the results of 1900 WTMP inspections conducted from 2000 through 2006.

⁶³⁸ Ibid

⁶³⁹ Orange County Utilities Guide: Water and Sewer Providers. Available at: <http://www.co.orange.nc.us/ecodev/utlguide/water.htm>. (Accessed May 2007).

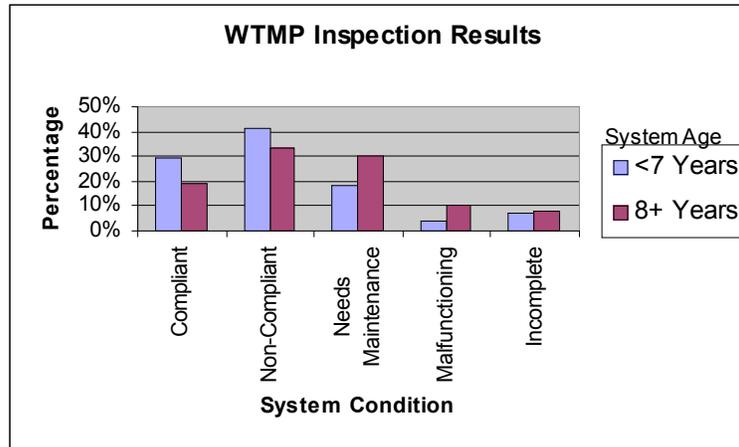


Figure 12, F-2: Waste Treatment Inspection Program Inspection Results

Biosolids Data

Wastewater treatment plant processing results in a residual solid material called biosolids. Biosolids originating from OWASA, Hillsborough, Burlington, Mebane, Durham, and Cary wastewater treatment plants are applied to permitted sites in Orange County. Each year OWASA spreads more than 1,500 tons of biosolids on farmland as a part of their Biosolids Recycling Program. Approximately 3500 acres of farmland in Orange County are currently permitted for the application of biosolids. Biosolids act a fertilizer and soil conditioner to support crops for nonhuman consumption.⁶⁴⁰ Orange County lands receiving biosolid application can be seen in the figure below.

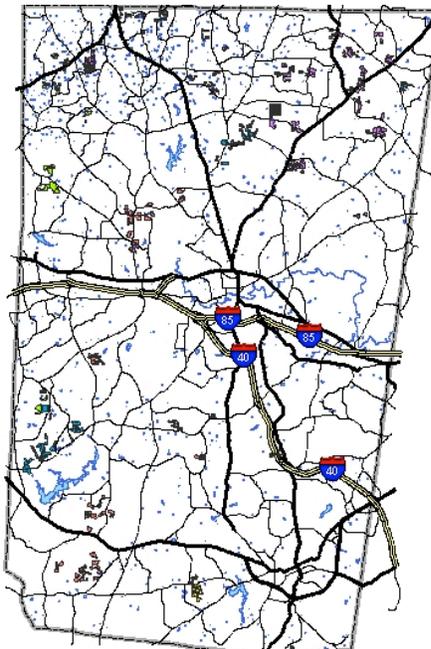


Figure 12, F-3: Permitted Sites in Orange County for the Application of Biosolids

⁶⁴⁰ NC Department of Health and Human Services. Communicable Disease Control. E. coli. Available at: <http://www.epi.state.nc.us/epi/gcdc/ecoli.html>. (Accessed May 2007)

The Orange County Health Department, in collaboration with UNC School of Public Health, is initiating a pilot study on biosolids activity and its potential for impact on the environment. The study is expected to begin in 2008.

Community Survey Results⁶⁴¹

According to the 2007 Community Health Assessment survey, the town provides waste management services for 48% of respondents, while 25% of respondents take their trash to convenience centers and 17% are hiring someone to pick up their trash. See Figures 12, F-3 below. When asked if they recycle, 86% of respondents said yes. Figure 12, F-5 shows the types of materials recycled by Orange County residents.

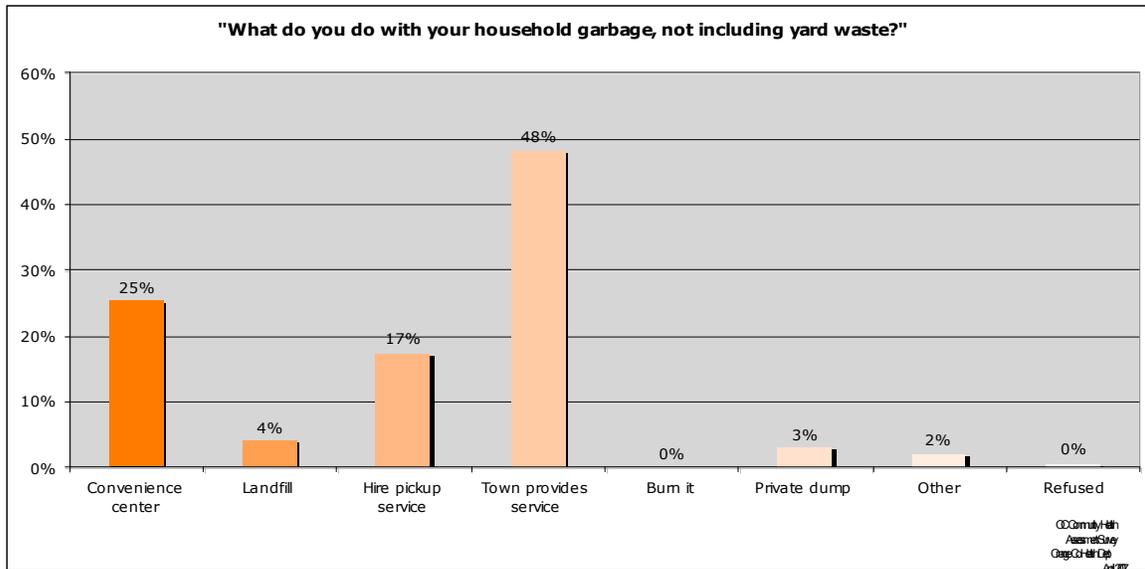


Figure 12, F-4: Response to the question, "what do you do with your household garbage, not including yard waste?"

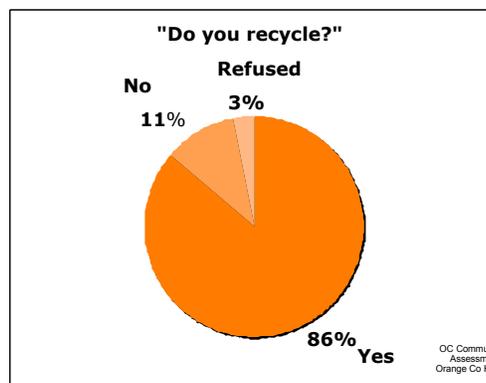


Figure 12, F-5: Response to the question, "Do you recycle?"

⁶⁴¹ These data are from the Orange County Community Health Assessment survey conducted by the Orange County Health Department, April, 2007. See appendix for survey content.

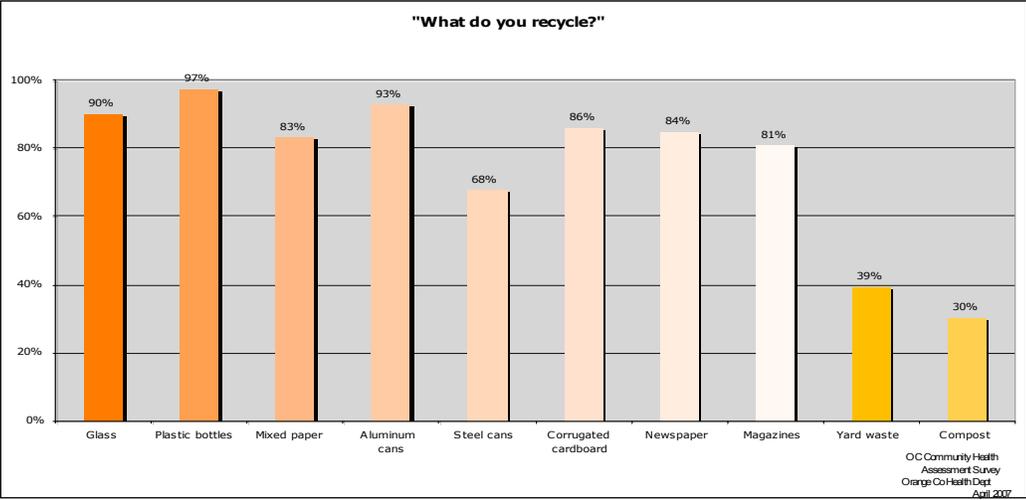


Figure 12, F-6: Response to the question, "What do you recycle?"

CHAPTER 13: PUBLIC HEALTH EMERGENCY PREPAREDNESS

Healthy Carolinians 2010 objectives related to public health emergency preparedness are:

Healthy Carolinians 2010 does not provide direct objectives for public health emergency preparedness. However, public health emergency preparedness should be considered a strategy towards achieving community health and safety, which is the foundation of Healthy Carolinians. According to Healthy Carolinians' Community Health Committee, safety helps define community health. The Community Health Committee's goal for ensuring a safe community is to:

"Provide a safe and secure community that supports mutual respect for all residents and property and contributes to improving the quality of everyone's life. (This essential component includes: public safety infrastructure, law enforcement, fire safety, crime reduction, and intentional injury prevention)."⁶⁴²

It can be argued that community preparedness engenders a more efficient response from public safety and health officials and reduces disaster-related injuries. Because of this, Orange County incorporated an assessment of community preparedness as part of its 2007 Community Health Assessment.

Healthy People 2010 objectives relevant to public health emergency preparedness are:

8-21: (Developmental) Ensure that State health departments establish training plans and protocols, and conduct annual multi-institutional exercises to prepare for response to natural and technological disasters.

23-14: (Developmental) Increase the proportion of Tribal, State, and local public health agencies that provide or assure comprehensive epidemiology services to support essential public health services.⁶⁴³

Impact

Terrorism

On September 11, 2001, the United States experienced its largest on-soil terrorist attack. In the months following 9/11, the threat of bioterrorism was realized as inhalational anthrax spores were released in Washington, DC, Florida, New Jersey, and New York via the postal system, causing illness to many and several deaths.⁶⁴⁴ Terrorism and bioterrorism became a priority after 9/11 and U.S. public health officials placed more attention on public health emergency preparedness.

⁶⁴² N.C. Department of Health and Human Services. (2002). Community health. Retrieved May 17, 2007 from <http://www.healthycarolinians.org/2010objs/commhealth.htm>.

⁶⁴³ U.S. Department of Health and Human Services. *Healthy People 2010*. 2nd ed. With Understanding and Improving Health and Objectives for Improving Health. 2 vols. Washington, DC: U.S. Government Printing Office, November 2000.

⁶⁴⁴ Jernigan, J.A., Stephens, D.S., Ashford, D.A., Omenaca, C., Topiel, M., Galbraith, M., et al. (2001). Bioterrorism-related inhalational anthrax: The first 10 cases reported in the United States. *Emerging Infectious Disease*, 7(5): 1-26.

Public health agencies at the federal, state, and local levels evaluated existing and developed new emergency response plans. The North Carolina Department of Public Health responded by developing the Office of Public Health Preparedness and Response (PHP&R) in 2002, which developed seven Public Health Regional Surveillance Teams (PHRSTs) to help local health departments plan for public health emergencies.⁶⁴⁵ Local health departments across the State (including Orange County) received grant funding from State and Federal sources to develop and/or improve emergency response plans, emergency preparedness education programs, volunteer cadres for surge capacity, and response exercises.

According to the Rand Corporation's Center for Terrorism Risk Management Policy, the most important components in assessing a region's terrorism risk are threat (the likelihood of a target being attacked), vulnerability (the amount of potential damage), and consequence (the magnitude of damage).⁶⁴⁶ Rand explains that areas most vulnerable to terrorism are major cities that are densely populated.

While Orange County does not have a major city within its limits, its position as an academic community increases the threat and vulnerability for terrorism. The county also has research, medical, and sporting facilities that could be targeted by terrorists. The county's farming community makes agricultural bioterrorism a possible threat and our proximity to Research Triangle Park also creates a risk for the county.

Natural Disasters

Public health preparedness also extends to natural disasters. According to FEMA, there have been twelve major disaster declarations in North Carolina within the past ten years.⁶⁴⁷ Our state has experienced tornadoes, hurricanes, severe winter storms (snow and ice), tropical storms, and flooding. Hurricanes have been the most common natural disaster for North Carolina with six storms declared between 1997 and 2007.

According to Orange County's Hazard Mitigation Plan (HMP), Orange County is at risk for hurricanes, floods, tornadoes, severe winter storms, chemical spills, wild fires, and other natural hazards.⁶⁴⁸ Hurricanes and winter weather pose the greatest threat for our area. Of the six hurricanes to hit North Carolina in the past ten years, four passed over Orange County.⁶⁴⁹ The HMP states that hurricanes to pass over Orange County have usually been in a weakened state.⁶⁵⁰ Nonetheless, these storms resulted in damaged property and federal disaster assistance. Past winters have produced severe snow and ice storms for the area. In 2000, twenty inches of snow fell in the County overnight creating impassible roads, power

⁶⁴⁵ Davis, M.V., MacDonald, P., Cline, J.S., & Baker, E.L. (2007) Evaluation of public health response to hurricanes finds North Carolina better prepared for public health emergencies. *Public Health Reports*, 122:17-26.

⁶⁴⁶ Willis, H.H., Morral, A.R., Kelley, T.K., & Meadby, J.J. (2005). *Estimating terrorism risk*. Santa Monica, CA: Rand Corporation.

⁶⁴⁷ Federal Emergency Management Agency. (September 12, 2006). *North Carolina Disaster History*. Retrieved May 1, 2007 from http://www.fema.gov/news/disasters_state.fema?id=37.

⁶⁴⁸ Orange County Department of Planning. (2004). Orange County Multi-Jurisdictional Hazard Mitigation Plan. Retrieved May 10, 2007 from <http://www.co.orange.nc.us/planning/hazardmitigation.asp>.

⁶⁴⁹ Federal Emergency Management Agency. (September 12, 2006). *North Carolina Disaster History*. Retrieved May 1, 2007 from http://www.fema.gov/news/disasters_state.fema?id=37.

⁶⁵⁰ Orange County Department of Planning. (2004). Orange County Multi-Jurisdictional Hazard Mitigation Plan. Retrieved May 10, 2007 from <http://www.co.orange.nc.us/planning/hazardmitigation.asp>. (p.4)

outages, and stranded vehicles.^{651,652} In 2002, an ice storm forced 459 families to enter American Red Cross shelters.⁶⁵³

Communicable Disease

The possibility of a widespread communicable disease outbreak is also a public health preparedness concern. The Centers for Disease Control and Prevention (CDC) defines communicable disease as disease that can pass from a person or animal to another person.⁶⁵⁴ Many communicable diseases exist and the impact of each case may vary by type, geographic location, and attack rate. As with a man-made or natural disaster, emergence of a widespread communicable disease could prohibit continuity of operations for multiple sectors of society.

The threat of pandemic influenza has reemerged as a public health concern, as cases of the H5N1 influenza strain appear in Europe, Asia, and Africa.⁶⁵⁵ The CDC is planning for the possibility of pandemic influenza reaching the United States with the assumptions that a severe pandemic will result in approximately 90 million influenza cases and two million deaths and overwhelm the country's healthcare system with mass hospitalization and outpatient care.⁶⁵⁶ North Carolina public health officials estimate that close to three million illnesses and over 65,000 deaths will occur in the State as the result of a severe pandemic.⁶⁵⁷

Personal and Family Preparedness

Personal and family preparedness requires a series of steps taken in advance to prepare for an emergency. Individuals and families are encouraged to develop a preparedness plan that includes an emergency preparedness kit, shelter-in-place and evacuation strategies, a communication plan, and a pet preparedness plan at minimum. Community members should be ready to comply with emergency evacuation or shelter-in-place notices when ordered to ensure safety during disasters.

Contributing Factors

The overall finding in current public health preparedness research is that Americans are not ready for disasters. In 2006, the National Center for Disaster Preparedness at Columbia University studied preparedness attitudes of New York City and Louisiana residents. Researchers found higher emergency preparedness levels among Louisiana and Mississippi residents, as these post-Hurricane Katrina residents were more concerned with future natural disasters in their region. However, researchers found that even with the high threat of terrorism, family preparedness rates in New York City are low. Overall, the Center for Disaster Preparedness concluded that Americans are not prepared for another large man-

⁶⁵¹ Orange County Emergency Services. (2000). January 25, 2000 Snowstorm. Retrieved May 18, 2007 from <http://www.co.orange.nc.us/ems/Galleries/000125-snowstorm/index.htm>.

⁶⁵² CNN.Com. (January 25, 2000). Fierce winds follow snowstorm into northeast: Mid-Atlantic states, New England blanketed by near-blizzard. Retrieved May 18, 2007 from <http://archives.cnn.com/2000/WEATHER/01/25/ice.storm.03/>

⁶⁵³ Personal Communication, Tim Bothe, Orange County American Red Cross Disaster Services Coordinator, May 3, 2007.

⁶⁵⁴ Gerberding, J.L. (2006). Pandemic Preparedness: Pigs, poultry, and people versus plans products, and practice. *The Journal of Infectious Diseases*, 194: S77-81.

⁶⁵⁵ World Health Organization. (June 5, 2007). *Pandemic flu: What's happening now*. Retrieved June 7, 2007 from <http://www.pandemicflu.gov/general/index.html#what>

⁶⁵⁶ Ibid

⁶⁵⁷ NC Department of Health and Human Services. (2007). North Carolina Pandemic Influenza Plan: Introduction. Retrieved May 18, 2007 from <http://www.epi.state.nc.us/epi/gcdc/pandemic.html>.

made or natural disaster. Americans' lack of preparedness was attributed to not knowing how to prepare.⁶⁵⁸

A recent opinion survey conducted by the American Public Health Association (APHA) found that most Americans are not prepared for a public health emergency.⁶⁵⁹ In February 2007, the APHA conducted the National Opinion Survey to Determine Levels of Preparedness for a Public Health Crisis. The APHA found three factors explaining why Americans are not prepared for a public health emergency: (1) Americans prefer to not think about what could happen during a crisis, (2) some Americans overestimate their level of preparedness, and (3) Americans determine necessity of public health preparedness using a cost-benefit analysis.

According to the May 2006 American Red Cross (ARC) Preparedness Poll, 1 in 4 Americans report feeling prepared for a power outage, natural disaster or terrorist attack. The most common barriers to emergency preparedness reported in ARC's study were not having enough time to get prepared (23%), failing to see the importance of preparedness (14%), and perceiving emergency preparedness as being too expensive (6%).⁶⁶⁰

Data

Emergency preparedness data is not collected in Behavioral Risk Factor Surveillance Surveys. The 2007 Orange County Community Health Assessment appears to be the first attempt to collect emergency preparedness data for Orange County residents.

During the community assessment, respondents were asked the following questions assessing household emergency preparedness levels: (1) Do you have a plan for your household in case of a natural disaster or other emergency; (2) Do you have a stock of water and non-perishable food in your home in case of emergency; and (3) Do you have all the essential items you would need to evacuate your home at a moment's notice? Fifty-three percent of the homes surveyed reported not having a household emergency plan and 3% did not know whether their household had an emergency plan. Forty-one percent of the homes surveyed did not have emergency water and supply of non-perishable food and 1% did not know if their home had such supplies. Lastly, 56% of the households surveyed did not have all the essential items needed for a sudden evacuation.

Disparities

As previously stated, a contributing factor to individual and family preparedness is cost. Households operating on limited budgets may find it difficult to purchase enough items to make emergency preparedness kits for every household member. Low-income households may find it difficult to follow recommendations for stockpiling food and water supplies.

⁶⁵⁸ Columbia University Mailman School of Public Health (2006). *Where the Public Stands on Terrorism, Security, and Disaster Preparedness: Five Years After September 11, One Year After Hurricane Katrina*. Retrieved May 2, 2007 from http://www.ncdp.mailman.columbia.edu/files/2006_white_paper.pdf.

⁶⁵⁹ American Public Health Association. (2007). *National Opinion Survey to Determine Levels of Preparedness for a Public Health Crisis*. Retrieved May 10, 2007 from <http://nphw.org/2007/Survey%20Report.pdf>.

⁶⁶⁰ American Red Cross. (2006). *Preparedness Poll: Telephone survey of 1000 U.S. adults 18 years and older on May 4-7, 2006 conducted by ORC International*. Received May 3, 2007 from Tara Lynch, National American Red Cross Disaster Preparedness and Response Public Affairs.

Community Survey Results⁶⁶¹

The following graphs illustrate the 2007 Community Health Assessment survey results as relate to the three emergency preparedness questions outlined in the above Data section.

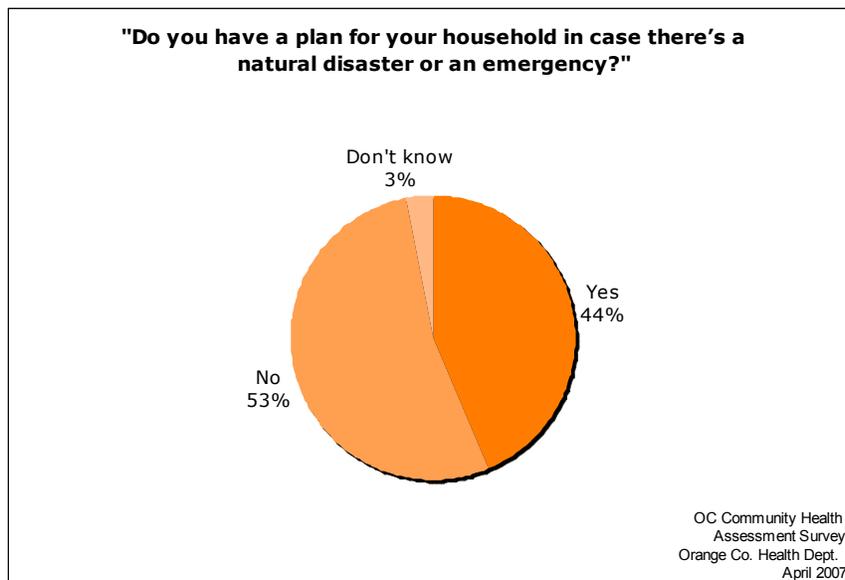


Figure 13-1: Responses to the survey question "Do you have a plan for your household in case there's a natural disaster or an emergency? "

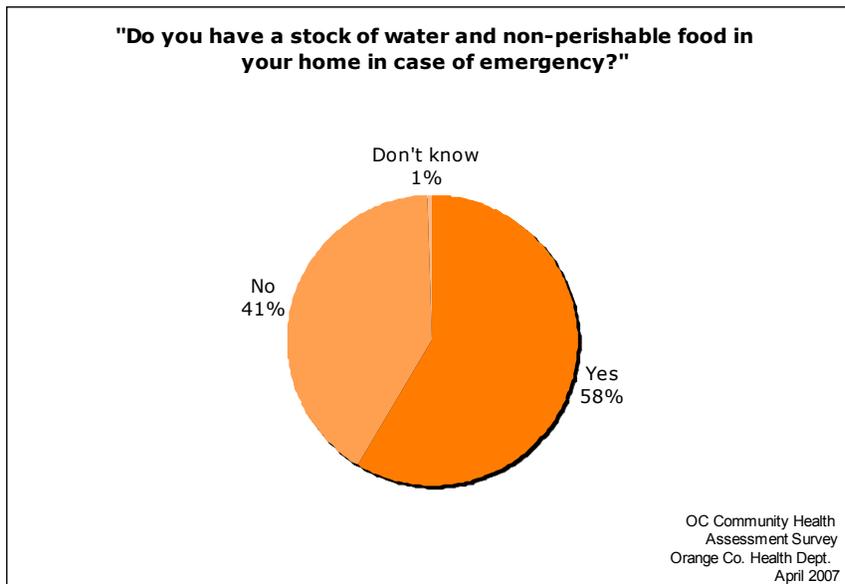


Figure 13-2: Responses to the survey question "Do you have a stock of water and non-perishable food in your home in case of emergency?"

⁶⁶¹ These data are from the Orange County Community Health Assessment survey conducted by the Orange County Health Department, April, 2007. See appendix for survey content.

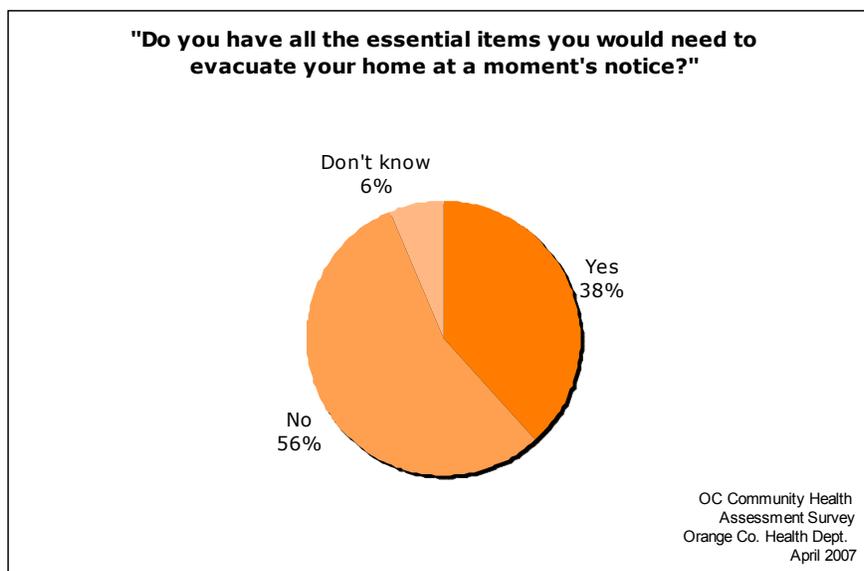


Figure 13-3: Response to the question "Do you have all the essential items you would need to evacuate your home at a moments notice?"

Resources

Orange County community members have access to multiple programs related to public health emergency preparedness. Several county agencies have set up programs to educate residents about local hazards and increase community involvement in disaster preparedness.

The Orange County Health Department offers the following services to help community members prepare for and respond to local disasters:

- Public Health Preparedness Planning - The health department has a full-time public health preparedness coordinator who writes OCHD's plans for responding to public health needs after natural and man-made disasters and during communicable disease outbreaks. The preparedness coordinator also assists local businesses and organizations with developing public health emergency plans.
- Orange County Public Health Reserve Corps (PHRC) – The PHRC is one of the Orange County Health Department's community volunteer programs. The PHRC mission is to build a reserve of health professionals and other community members with specialized skills that will strengthen the health department's ability to respond to local public health emergencies such as natural disasters and man-made disasters like acts of terrorism. The PHRC is a Medical Reserve Corps unit, which is a component of the National Citizen Corps program.
- Orange County Community Emergency Response Team (CERT) Program – The health department partners with Orange County Emergency Services to implement and manage the Orange County CERT Program. Orange County CERT teaches participants how to provide basic emergency response services after a disaster. Community members and businesses are encouraged to form a CERT team to meet critical needs in their neighborhood when first responders are unavailable. Members are also encouraged to support emergency response agencies by taking a more active role in emergency preparedness projects in their community. CERT is also a National Citizen Corps program.
- Emergency Preparedness for Childcare Facilities – The health department's Child Health Care Consultant provides *Emergency Preparedness and Response for Child Care*

training to local childcare facilities. The UNC School of Public Health for the Division of Child Development developed the training curriculum. The Child Health Care Consultant also helps childcare programs (homes and centers) with developing emergency response plans and conducting drills. Approximately 40 to 45% of Orange County's licensed childcare programs have completed training and about half have plans in place.⁶⁶²

In addition to the Orange County Health Department, several local agencies provide emergency preparedness resources to the community.

- Local fire and law enforcement agencies.
- Orange County American Red Cross provides relief to victims of disasters and help people prevent, prepare for and respond to emergencies. The Red Cross works with community partners to provide practical and helpful awareness and educational information to residents of Orange County. The Red Cross also provides safe shelter, food, clothing, health and mental health services to address those immediate needs.⁶⁶³
- In addition to providing training for the CERT program, the Orange County Emergency Services organizes the Immigrant Emergency Communication Coalition, which prepares materials and disseminates information on disaster preparedness to residents in a variety of different languages. Emergency Services also gives talks about personal preparedness as requested to small groups, including seniors in the area, and organizes the Local Emergency Planning Committee (LEPC).

Gaps and Unmet Needs/Emerging Issues

Community Health Assessment data for emergency preparedness shows the need for increased community education about how to prepare for public health emergencies. The health department and partner agencies must increase promotion of educational and community service resources related to emergency preparedness to create greater awareness among community members. More education about emergency preparedness is necessary for creating an informed and prepared community.

⁶⁶² Personal Communication, Patty Rhodes, Orange County Child Care Health Consultant, June 7, 2007.

⁶⁶³ Personal Communication, Tim Brothe, Orange County American Red Cross, October 8, 2007.

CHAPTER 14: COMMUNITY PRIORITIES

An integral part of the Community Health Assessment process is to identify the community's health-related priorities and to generate strategies that will serve as the foundation for the County's Community Health Action Plan. This chapter describes the process used to select the priority focus areas, the priority areas selected by the community, areas of celebration within the community, and the next steps in developing the County's Community Health Action Plans.

Community Definition of Health

The way that the community defines health can impact the health priorities selected. Below is a definition of a healthy community based on resident's responses to the 2003 community focus groups. Based on responses to the 2007 survey, it is clear that resident's perception of a health community is similar to their perception in 2003. Overwhelmingly, residents defined a healthy community as a community in which people are eating nutritiously, getting exercise, and generally maintaining a healthy weight. Residents told us that a healthy community is one in which people have plenty of safe and convenient opportunities to exercise, and in which they are aware of the importance of exercise and a healthy, balanced diet. Residents also think that the ability to maintain one's mental health is an important part of a healthy community. Maintaining mental health has many components: in a healthy community, residents are exposed to few stressors and other threats to their mental health, feel a sense of balance in their lives, and are able to seek treatment for mental health problems if they need to. Another important aspect of a healthy community, according to the people we spoke with, is a sense of connectedness and community support. A very important part of feeling connected and supported is the ability to feel safe in one's own community. Other important aspects of a healthy community, according to Orange County residents, are low rates of substance abuse and tobacco smoke, good environmental health, and the ability for all residents to access healthcare resources, regardless of their ability to pay.

Prioritization Process

The community assessment process, often uncovers a range of community concerns. While each is important, the availability of resources and interest in the community limits the number of issues that can be addressed at a given time. Thus, the community must prioritize which issues to focus on and how to use their resources. Both the community survey data and secondary data collected were used to inform the prioritization process.

Due to the large quantity of data within the document, the prioritization process took place in stages.

Community Survey Data

First, within the Community Health Assessment Survey, there were three questions that asked residents to choose the top social, health and environmental issues that affect the community as a whole. The three questions and the list of options respondents could choose from are presented below.

"Which of these things stand out for you as important social issues in Orange County?"
Choose three.

- | | |
|--|---|
| <ul style="list-style-type: none">• Access for the disabled• Elderly services• Family violence• Racial discrimination• Homelessness• Affordable health care | <ul style="list-style-type: none">• Internet safety• Community violence• Risky teen behaviors• Making ends meets• Lack of transportations• Other |
|--|---|

“Which of these things stand out for you as important health issues in Orange County?” Choose three.

<ul style="list-style-type: none"> • Lack of health insurance • Accidents and injuries • Illnesses spread by animals • Poor dental health • Asthma and lung disease • Cancer • Diabetes 	<ul style="list-style-type: none"> • Drug and alcohol abuse • Overweight and obesity • Heart disease • Communicable disease • Mental health • Tobacco use • Other
--	--

“Which of these things stand out for you as important environmental issues in Orange County?” Choose three.

<ul style="list-style-type: none"> • Air pollution • Development • Solid waste issues • Food safety • Hazardous waste disposal • Lead hazards to children 	<ul style="list-style-type: none"> • Septic and sewer • Water pollution • Ground water contamination • Drinking water quality • Global warming • Other
---	--

Responses to these questions provided insight into resident’s perceptions and concerns about important community health issues. Results from the survey questions revealed the following top concerns among the community.

#	Social	Health	Environmental
1	Affordable health insurance	Lack of health insurance	Development
2	Homelessness	Drug and alcohol abuse	Water pollution
3	Risky teen behavior	Overweight and obesity	Air pollution

Table 14-1: Top Three Social, Health and Environmental Concerns among Community Members

In addition to the three questions above, other survey questions were used were applicable to understand community health needs. Survey data specific to each topic can be found under the “Community Survey Results” sections within each chapter.

Community Health Assessment Team

Once all primary and secondary data was collected, the Community Health Assessment Team met and reviewed the data; comparing the survey data above to the secondary data and community health statistics. The goal of the Assessment Team was to review all 43 topics covered in the assessment and narrow the topics down to the ten areas that present the greatest health concern to the community. The ten areas selected by the Community Health Assessment Team were then presented and voted on by the community at the Healthy Carolinians of Orange County annual meeting.

The Assessment Team was asked to consider the following two criteria when determining which problems were of greatest health concern: importance and changeability.

Importance:

- Issue does not meet Healthy Carolinians objective,
- Data indicates there is a high incidents/prevalence in community,

- Issue is a significant cause of morbidity and/or mortality in community,
- Community identified issue as a need or it is perceived as a problem,
- Issue is not already being addressed by others in the community.

Changeability:

- The HCOC partnership could effectively address the issue,
- There are resources in community to help address issue,
- There is expertise in community to help address issue,
- There is an interest by the community to work on the issue,
- Issue itself is amenable to intervention (i.e., changeable).

Of the areas that needed improvement, the Community Health Assessment Team narrowed the list down to the ten topic areas listed below. As part of the discussion, the Community Health Assessment Team chose to group together related topics. Topics grouped together are shown in parentheses.

- ❖ Hunger
- ❖ Access to Health Care and Health Insurance
- ❖ Transportation
- ❖ Health Promotion (physical activity, nutrition and obesity)
- ❖ Chronic Diseases (cancer, diabetes, heart disease and stroke)
- ❖ Child and Adolescent Health (mental health, substance abuse and sexual behavior)
- ❖ Adult Mental Health and Substance Abuse
- ❖ Domestic Violence (child abuse and intimate partner violence)
- ❖ Sexually Transmitted Diseases
- ❖ Water Quality

Healthy Carolinians of Orange County Annual Meeting

The final stage of prioritization took place at the Healthy Carolinians of Orange County Annual Meeting. The focus of the Healthy Carolinians Annual Meeting was to report back to the community what was found in the assessment and to get the community's input about which areas would become priorities. The meeting was advertised through various listservs, mailed invitations and flyers posted throughout the county. Over 70 participants attended the meeting including community members, representatives from the board of health, county commissioners, local agencies, the churches, the hospital, and the schools.

First participants were presented with data on each of the ten areas. After the presentation, participants formed small groups and discussed each of the issues. To encourage participants to think not only about which of the issues were important, but which issues the community could adequately address, participants were asked to discuss the following questions.

1. Since there is already a lot of good work being done in the community, and we want to maximize our time and resources as much as possible, please consider the following...
 - A. Are there resources available for us to build on?
 - B. Are the current efforts and/or resources enough to adequately address the issue?
2. To reach our goals, there must be community support and commitment to address the issue.
 - A. Do you feel that there is an interest and desire in the community to tackle the issue?
3. Realistically, can we make a significant impact on the issue and improve health outcomes?
4. Representation from what areas of expertise is needed and/or who must be involved to move forward?
 - A. Do we have the necessary people?

After the small group discussions each small group reported back to the larger group about what they had discussed. The group discussions allowed participants to share information that may not have been presented, helping each other become more informed about the issues. After the discussions, each participant voted on the three issues he/she felt were most important to address in the community. The section below highlights the five priorities that received the most votes.

Community Priorities

Below are the five areas that were determined to be of greatest concern to the community. The concerns listed here were selected by the community and are listed in the order of the numbers votes they received: greatest to least. More information on each of these areas can be found in the corresponding chapters throughout the document.

Health Promotion

Obesity rates continue to rise across all ages, genders, and racial/ethnic groups in the County, with 51.6% of Orange County adults reported as overweight or obese, and 35% of children seen in WIC or health department clinics reported as overweight or at risk. The rise in obesity is a concern because it contributes to the three leading causes of deaths in Orange County and multiple other morbidities. It is evident that there is a strong link between poor nutrition, lack of physical activity and obesity. County data shows that the majority of Orange County residents are not eating a healthy diet or getting the recommended levels of daily physical activity, which is thought to be a big contributor to the rise in obesity. Community input suggests that there is a need for greater awareness and education about healthy lifestyle behaviors, and there needs to be greater push for policy and environmental changes that support healthy lifestyles. Orange County has many great resources which can be built upon to address the obesity epidemic.

Access to Health Care/Health Insurance

While Orange County has a large number of health care providers and numerous health care facilities, many residents do not receive the services they need. Limited access to health care is driven by many factors such as lack of transportation, language barriers, and lack of familiarity with the health care

system. However, economic considerations, specifically, lack of health insurance is a primary factor in limiting access to health care services. Data indicates that 15% of Orange County residents lack health insurance, and survey data shows that affordable health care and lack of access to health care are two of the top social and health concerns among residents. While access to health care affects all groups, lower-income families, those on Medicaid, and the Latino population are most affected. Access to dental care is of particular concern for these populations.

Adult Mental Health and Substance Abuse

Mental health is a priority because it affects every aspect of one's life; leading to social and vocational difficulties and compounding other health problems. It is difficult to obtain accurate data on the number of residents who suffer from mental health disorders. However, it is estimated that 15 to 20% of adults suffer from significant mental illness that impacts their functioning. Mental health was the fourth most important health concern among residents. Approximately 17% of residents felt it was difficult to access mental health services, particularly for the uninsured. Others noted that there is a need for more continuity in care between crisis services and continued care services, and that larger agencies need to refer to smaller agencies to reduce waiting periods. Like mental health, substance abuse is difficult to measure; however, it is estimated to be North Carolina's costliest health problem and a problem that exists within our community. Additionally, residents cited substance abuse as the second most serious health concern in the community. Substance abuse is an important problem because there is a lack of adequate treatment centers, long waiting periods for services, and a lack of insurance coverage to pay for treatments.

Child and Adolescent Health

Risky teen behavior was a top social concern among residents. Many factors influence the choices teens make; thus it is important for children and adolescents to remain socially, mentally, and physically healthy. One aspect of child and adolescent health is mental health. It is estimated that 2,880 children and adolescents in Orange County have mental health needs. Mental health disorders often begin during childhood and adolescence and interfere with important tasks and functioning. Left unintended mental health issues are likely to persist into adulthood. Additionally, poor mental health may affect youth's judgment and behaviors. Therefore, it is important to identify and provide services to young people with mental health problems early to prevent the development of more severe problems. However, many residents express difficulty in accessing mental health services. Residents expressed the need for more education about mental health issues and the need to know where and how to access services. Additionally, residents expressed the need for more continuity in care between crisis services and continued care services. Another factor affecting child and adolescent health and teen risky behavior is substance abuse. Substance abuse can affect a child's ability to reach their intellectual, social, and emotional potential and may predispose youth to other risky behaviors. While it is difficult to assess the exact extent of substance abuse among youth, school data suggest that a large percent of youth are using substances such as alcohol, marijuana, and cocaine. Residents express need for more treatment options for youth substance abusers that are comprehensive and

creative. Additionally, residents feel it is important to provide outlets to youth to prevent the use of substances to begin with.

Transportation

Transportation was repeatedly cited as a barrier to accessing needed services including health services, social services, and recreational opportunities. Transportation is of greatest concern for residents who do not have access to the public transportation services, specifically residents who live in Northern Orange County and other rural areas and for persons with disability and the elderly. While Orange Public Transportation has improved services in the northern parts of the county, it continues to be a challenge for some residents to access these services. More outreach and education to vulnerable population about transportation services (e.g., providers, routes, and schedules) and an increase in access to transportation services is needed.

Areas of Celebration

In addition to the concerns identified, the community health assessment process provided insight into areas where the County is doing well (i.e., those areas where Orange County has met or surpassed the NC 2010 Health Objectives and/or are better than the state average). Orange County has several reasons to celebrate.

Excellent Educational Systems

Over half of Orange County residents age 25 and older possess a Bachelor's degree or higher compared to 27.2% nationally. This is in large part due to the presence of the University of North Carolina, which is consistently ranked as one of the top public universities in the nation. In addition to the university, there is strong support for public education in the County and both school systems are experiencing lower than state average drop out rates.

Low Unemployment Rates

In 2006, the unemployment rate for Orange County was 3.3%, one of the lowest unemployment rates in NC and lower than the state unemployment rate of 4.7%. Additionally, between 2005 and 2006, Orange County saw an increase in private sector jobs.

Low Teen Pregnancy Rates

In 2006, the rate of teen pregnancy in Orange County was one of the lowest in the state at 20.9 pregnancies per 1,000, compared to the state rate of 63.1 pregnancies per 1,000. However, there is a significant disparity between whites and minorities with almost a three-fold increase in minority pregnancy rates, 14.1 and 40.5 respectively.

Low Diabetes Mortalities

Between 2001 and 2005, the death rate due to Diabetes was 17.8 per 100,000; a rate which is better than the objectives set by NC 2010. In addition, a high percentage (~96%) of residents reported getting the recommended diabetes screenings (A1c and foot exams).

Low Smoking Rates and an Increase in No Smoking Policies

In 2006, only 12% of Orange County adults reported that they were smokers compared to the 22.6% state-wide. Orange County has also met the NC 2010

objectives for smoking. In addition, there has been an increase in the number of schools, hospitals, organizations and restaurants who are now smoke free.

Good Waste Management

Orange County has seen a 46% reduction in per capita waste production since 1992. In addition, survey data indicates that Orange County has high rates of recycling, with 86% of survey respondents reporting that they recycle.

Next Steps

Orange County has many assets and many unmet needs. This report is an effort to provide a glimpse into the realities that exist within this community and to offer some direction on addressing unmet needs.

A goal of the Orange County Health Department and Healthy Carolinians of Orange County is for the information gleaned from this document to be widely shared and utilized to influence strategic planning across the community. The Healthy Carolinians of Orange County Council will develop a community-wide communication plan to assure broad dissemination of this report. Municipal and county governments, boards of education, health and human service agencies and boards, business leaders, economic development committees, Chamber of Commerce, the faith community, civic groups, and community groups will be among those targeted. It is our hope that all of these entities will actively seek and find ways to utilize their programs, services and resources to address the identified needs as is appropriate to their stated missions.

Healthy Carolinians of Orange County Council will also develop committees or task forces to determine further actions to initiate as a result of this report. It is likely that additional analysis of the issues and their underlying causes will be necessary in order to fully understand and respond to the identified needs. By May 2008, the Healthy Carolinians partnership and committees will develop Community Health Action Plans detailing the strategies to be carried out to address the priority issues. The partnership will continue to engage in ongoing evaluation and encourage collaboration between agencies and community groups to achieve possible health outcomes.

LIST OF APPENDICIES

Appendix A: Community Assessment Team Members

Appendix B: List of Contributors

Appendix C: List of Survey Volunteers

**Appendix D: Orange County Community Health Assessment Survey
2007 – English Version**

**Appendix E: Orange County Community Health Assessment Survey
2007 – Spanish Version**

Appendix F: Map of Survey Locations

APPENDIX A: COMMUNITY ASSESSMENT TEAM MEMBERS

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Older Adult Health

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Jack Chestnut, OC Advisory Board on Aging
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Jena Ivey, Wellness Advisory Board
Jerry Kruter, OC Advisory Board on Aging
Jerry Passmore, Director Orange County Department on Aging
Jill Passmore, Triangle J Council of Governments
Lead Ombudsmen, Triangle J Council of Governments
Mary Ann Peter, OC Advisory Board on Aging
Myra Austin, Wellness Coordinator
Peggy Cohn, OC Advisory Board on Aging
Pam Haines, Wellness Advisory Board
Sonda Oppewal, Wellness Advisory Board

Oral Health

Angela Cooke, Orange County Health Department
Dr. Bridget Wesley, Dental Director Piedmont Health Service, INC
Dr. Janet Southerland, Dental Ecology Department and Hospital Dentistry, UNC School of Dentistry
Dr. Jessica Lee, Departments of Pediatric Dentistry and Health Policy & Administration, UNC School of Dentistry.
Kim Hammersmith, Dental Student, UNC School of Dentistry
Maria Hitt
Myra Austin, Department on Aging, Orange county
Nina Maheshwari, Student, UNC Chapel Hill, Department of Health Policy and Administration
Dr. Timothy J. Wright, Pediatric Dentistry Department, UNC School of Dentistry
Salley Mauriello, Dental Ecology Department, UNC School of Dentistry
Wendy Schwade, NC Oral Health Section

Physical Activity

Donna King, Orange County Health Department
Evie Benson, Chapel Hill YMCA
Intergovernmental Parks Work Group
Jennifer Hastings, NC Prevention Partners
Lori Taft, Orange County Recreation and Parks

Public Health Preparedness

Candice Watkins Robinson, Orange County Health Department
Carla Julian, Orange County Health Department
Clint Osborn, Orange County Emergency Services
Patty Rhodes, Orange County Health Department
Tim Bothe, Orange County American Red Cross

Recreation

Bobbie Jo Munson, Healthy Carolinians of Orange County
Lori Taft, Orange County Recreation and Parks
Sandy Brady, Public Health Leadership Program, UNC School of Public Health

Reproductive Health

Arlene Hackle, Orange County Social Services
Deb O'Connell, UNC Midwifery
Debbie Stanford, UNC Horizons Program
Emily Adams, Planned Parenthood of Central North Carolina
Joseph Lee, UNC Department of Maternal & Child Health
Kathy Glasscock, Orange County Health Department
Merry-K. Moos, UNC Department of Obstetrics and Gynecology, Division of Maternal-Fetal
Medicine and UNC Teenage OB/GYN Clinic
Tania Connaughton-Espino, Piedmont Health Services

School Data

Chapel Hill-Carrboro City Schools
Diane Rocker, Orange County Schools
Donna Williams, Orange County Schools
Orange County Schools
Stephanie Willis, Chapel Hill-Carrboro Schools

Sexual Violence

Angelica Oberleithner, Orange County Partnership for Young Children
Michelle Johnson, Orange County Rape Crisis Center

Tobacco

Melva Fager Okun, NC Prevention Partners
Nikie Sarris, Orange County Health Department

Transportation

Bobbie Jo Munson, Healthy Carolinians of Orange County
Kurt Neufang, Chapel Hill Transit
Orange County Tax Office
Orange Public Transportation Office

Unintentional Injuries

Bobbie Jo Munson, Healthy Carolinians of Orange County

APPENDIX C: LIST OF SURVEY VOLUNTEERS

Alan Clapp, Environmental Health – Orange County Health Department (OCHD)
Alesia Sanyika
Amy Gedal, Student Volunteer
Andy Adams, Environmental Health - OCHD
Angela Cooke, Dental Health Division - OCHD
Angela Thompson, Student Volunteer
Anjum Hajat, Team Epi Aid UNC
Arlene D'Alli, Social Worker, PHRC Volunteer
Barbara Pringle, Public Health Nurse - OCHD
Bert Mills, Environmental Health - OCHD
Betsy Jordan-Bell, Student volunteer
C. Kay Briggs, Community Volunteer
Candice Watkins Robinson, Volunteer Coordinator - OCHD
Carl Carroll, Env Health Director - Alamance County
Carla Julian, Public Health Preparedness Coordinator -OCHD
Charyl Allison, Dental Health Division - OCHD
Connie Pixley, Environmental Health - OCHD
David Hall, Health Promotion Program Coordinator - OCHD
David Hecht, Environmental Health - OCHD
Delores Graham, Medical Writer, Public Health Reserve Corps (PHRC) Volunteer
Diane Perry, RN - OCHD
Donna King, Health Promotion & Education Director - OCHD
Donna Laws, Orange County Partnership for Young Children
Edwina Zagami, Guy B Phillips Middle School
Emily Cohn, Student, PHRC Volunteer
Emily Davis, Student volunteer
Emily Greer, Student volunteer
Frances Kovens, Registered Nurse, PHRC Volunteer
Gloria Brooks
Greg Grimes, Environmental Health - OCHD
Ivette Mercado, Orange Co. Family Resource Centers
Jane Andrews, Environmental Health - OCHD
Jean Eddleman, Social Worker, PHRC Volunteer
Jennifer Albright, Central Carolina HealthNet
Jennifer Sharp, OCHD
Jesus Nunez, Community Volunteer
Jill McArdle, Registered Nurse, PHRC Volunteer
Jim Brown, Environmental Health - OCHD
Judy Butler, Community Health Services - OCHD
Kathi Peindl, Epidemiologist, PHRC Volunteer
Katie Cretin, Student Volunteer

Kelcey Luxenberg, Student Volunteer
Kelley Carpenter, PHRC Volunteer
Liz Russell, Student Volunteer
Lucy Wilson, Student Volunteer
Maria Hitt, Healthy Carolinians Coordinator
Mary Altpeter, UNC Institute on Aging
Meg Pickel
Myduc Ta, Student Volunteer
Nikie Sarris, Youth Tobacco Prevention Grant Coordinator - OCHD
Nikki Jarrett, Student Volunteer
Pamela Smith, Registered Nurse, PHRC Volunteer
Pat Dodson, Registered Nurse Volunteer
Patty Rhodes, Orange County Child Care Health Consultant
Perry Burns, OCHD
Phil Vilaro, Environmental Health - OCHD
Russelle Passino, Home Visitation Services Volunteer
Sandy Brady, Student Volunteer
Sue Rankin, Registered Nurse - OCHD
Susan Frye, Registered Pharmacist, PHRC Volunteer
Suzanne Lea, Epidemiologist, PHRC Volunteer
Suzanne Deobald, Triangle United Way
Tim Schwantes, Alamance County Health Department
Tom Konsler, Environmental Health - OCHD
Wayne Sherman, Personal Health Svcs - OCHD
Wendy Thigpen, Environmental Health - OCHD

**APPENDIX D:
Orange County Community Health Assessment Survey
2007 – English Version**

Team # _____

Survey # _____

Introduction

Hello, my name is _____ and I am volunteering with the Community Health Assessment Team of the Orange County Health Department. We are here to ask about your opinions on many different issues in Orange County. The purpose of this survey is to learn more about health and quality of life in Orange County. All the information you give us will be confidential; we will combine your answers with the answers of others and will put the results in a report that will talk about the group of people that we interviewed and not one person in particular. We will not put your name on the survey. We will use the results of this survey and other information to identify our community's most pressing issues. The survey will last about 30 minutes. We know it isn't much, but you'll be given two fresh oranges to represent a healthy Orange County and some resource information about county services in exchange for your time. Would you be willing to talk with us for about 30 minutes? May I begin with the first question then? Please answer as honestly as possible as we really want your opinion.

First we have questions about the Orange County community. The following statements describe life in Orange County. This section is about the whole community, not just your family. Please tell me whether you agree or disagree with each statement.

Quality of Life Statements	Circle one answer below for each statement.
1. There are enough jobs and chances to move up in Orange County.	Agree Disagree Don't Know
2. Orange County is a good place to rear children.	Agree Disagree Don't Know
3. Orange County is a good place to grow old.	Agree Disagree Don't Know
4. People in Orange County can get good healthcare.	Agree Disagree Don't Know
5. Orange County is a safe place to live.	Agree Disagree Don't Know

6. Please look at this list of social issues. If you prefer me to read the list to you, I can do that too. **[Hand them the laminated sheet #1.]** Which of these things stand out for you as important social issues in Orange County? Choose three. This question is not asking about you and your family, but which three of these issues most affect our community as a whole. If you think of an issue that is not on the list, let me know and we can write it in.

Social Concerns in Orange County

Please choose 3

People with disabilities cannot access events, facilities, or services

Not enough services for the aging population

Family violence

Racial and ethnic discrimination

Homelessness

Affordable health care access

Internet safety

Violence in communities

Risky behaviors of teens

Making ends meet

Lack of transportation

Other _____

7. Please look at this list of health issues. If you prefer me to read the list to you, I can do that too. **[Hand them the laminated sheet #2.]** Which of these things stand out for you as important health issues in Orange County? Choose three. This question is not asking about you and your family, but which three of these issues most affect our community as a whole. If you think of an issue that is not on the list, let me know and we can write it in.

Health Concerns in Orange County

Choose 3

- Lack of health insurance
- Accidents and injuries
- Illnesses spread by animals
- Poor dental health
- Asthma and lung diseases
- Cancer
- Diabetes
- Drug and alcohol abuse
- Overweight and obesity
- Heart disease
- Illnesses spread by people
- Mental health disorders
- Tobacco use

Other _____

Now I am going to ask you some questions about access to various health services. Please answer as best you can, thinking about your own experiences and the experiences of people you know.

8. Where do you get information about health? Tell me all that apply.

- | | |
|-------------------------------------|----------------------------------|
| <input type="checkbox"/> Radio | <input type="checkbox"/> Doctor |
| <input type="checkbox"/> Television | <input type="checkbox"/> Family |
| <input type="checkbox"/> Internet | <input type="checkbox"/> Friends |
| <input type="checkbox"/> Newspaper | <input type="checkbox"/> Other |
| <input type="checkbox"/> Magazines | _____ |

9. How do you pay for healthcare, for example, when you go to the doctor or emergency room? **[If they ask what kind of doctor, reply any kind except dental or eye.]** I will read the choices. Let me know which ones you usually do. Tell me all that apply

- I pay in full with cash, check, or credit card
- I pay in installments with cash, check, or credit card
- Private health insurance I bought for myself
- Private health insurance my employer or my spouse's employer provides
- Medicaid
- Medicare
- Veterans' Administration benefits
- Other: _____

10. Where do you **go most often** when you are sick or need advice about your health? **Please choose only one.**

- | | |
|--|---|
| <input type="checkbox"/> Community health center | <input type="checkbox"/> Health department |
| <input type="checkbox"/> Doctor's office | <input type="checkbox"/> Hospital clinic |
| <input type="checkbox"/> Emergency Room (ER) | <input type="checkbox"/> Urgent care center |
| <input type="checkbox"/> Other: _____ | |

11. In the past 12 months, did you delay or not fill a prescription you needed due to cost?

- Yes No Did not need a prescription

12. In the past 12 months, have you ever split pills to make your medication last longer?

- Yes No Did not need medication

13. In the past 12 months, was there a time you wanted to get dental care but could not get it?

- Yes No

14. How difficult has it been to find a dentist who would see you?

- Very difficult
- Somewhat difficult
- Not sure
- Not very difficult
- Not difficult at all

15. Do you get regular dental care?
 Yes **If yes, ask question 15A.**
 No **If no, ask question 15B.**

15A. Where do you usually get dental care?

- Dentist office
 Community health center
 Health Department Dental Clinic
 Dental School
 Emergency room (ER)
 Mobile van
 I do not have a regular place for dental care.
 Other: _____

15B. If you do not receive regular dental care, what is the most important reason why?

- I did not think it was important
 I did not know where to find dental care
 I could not afford it
 I did not have transportation
 I could not get an appointment
 I could not get off work
 I could not get childcare
 The dentist office did not speak my language
 Other: _____

16. If a friend or family member needed counseling for problems with alcohol or drugs, whom would you recommend they see? **You can choose more than one.**

- | | |
|---|--|
| <input type="checkbox"/> Local Mental Health Program | <input type="checkbox"/> Doctor |
| <input type="checkbox"/> Minister/religious official | <input type="checkbox"/> Support group |
| <input type="checkbox"/> Private counselor or therapist | <input type="checkbox"/> Don't know |
| <input type="checkbox"/> School counselor | <input type="checkbox"/> Other: _____ |

17. If a friend or family member needed counseling for a mental health problem, like depression, whom would you recommend they see? **You can choose more than one.**

- | | |
|---|--|
| <input type="checkbox"/> Local Mental Health Program | <input type="checkbox"/> Doctor |
| <input type="checkbox"/> Minister/religious official | <input type="checkbox"/> Support group |
| <input type="checkbox"/> Private counselor or therapist | <input type="checkbox"/> Don't know |
| <input type="checkbox"/> School counselor | <input type="checkbox"/> Other: _____ |

18. Thinking about friends, family members, and your own experience, please rate how easy or difficult it is for someone who wants help to get help for alcohol or drug abuse?

- Very Easy
 Some what easy
 Some what difficult
 Very difficult

Don't know

19. Thinking about friends, family members, and your own experience, please rate how easy or difficult it is for someone who wants help to get help for mental health concerns, such as depression?

- Very Easy
- Some what easy
- Some what difficult
- Very difficult
- Don't know

This section asks about children. If you do not have children under 18 we can skip to the next section.

20. Do you have children or grandchildren *under* age 18 living in your home?

- Children: Go to # 21
- Grandchildren: Go to # 20A
- Neither: Go to #21

20A. If you have grandchildren living in the home, are you their primary caretaker?

Yes No

20B. If you have grandchildren living in the home, are you their primary financial supporter?

Yes No

These next questions are geared towards everyday living issues – it includes questions about your lifestyle behaviors like eating, exercise and smoking

21. In general, how healthy would you say your overall diet is?

- Excellent
- Very good
- Good
- Fair
- Poor
- Don't know

22. What do you think makes it hard for you to eat healthy? Tell me all that apply.

- Healthy food doesn't taste good
- Healthy food costs too much
- It takes time to prepare and shop for healthy choices
- Lack of knowledge about cooking and preparation
- It's hard to find healthy choices when you eat outside the home
- You do eat healthy- it's not hard
- Other: _____

23. How many times a week do you eat meals that were not prepared at home, like from restaurants, cafeterias, or fast food?

- Never
- Less than once a week

- Once a week
- 2-3 times a week
- Almost everyday

24. Do you cook at home? Yes No Sometimes
If no or sometimes, ask 24A, otherwise skip to 25.

24A. Why don't you cook?

- Too busy
- It's too expensive
- Don't know how to cook
- Don't like to cook
- Someone else cooks for you

25. How many regular sodas, sweet tea, or other sweetened beverages do you drink each day?
 None 1 2 3 or more

26. In the last 12 months, did you worry that food would run out before you got money to buy more?

- Yes, all the time Yes, Sometimes No Don't know

27. In the last 12 months, did you feel that you could not afford to eat balanced meals?

- Yes, all the time Yes, sometimes No Don't know

28. In the last 12 months, did you ever cut the size of your meals, skip meals, or cut back on food because there wasn't enough money for food?

- Yes, all the time Yes, sometimes No Don't know

29. When you go out to eat, what type of restaurant do you prefer? Please select one.

- a) Restaurants that do not allow smoking
- b) Restaurants with both Smoking and No-Smoking sections
- c) Restaurants where Smoking is allowed throughout the premises

30. If you don't smoke, do you believe breathing the smoke from someone else's cigarette, also known as secondhand smoke, is harmful to your health? Yes No Not sure

31. Are you exposed to secondhand smoke at any of the following places? Please answer yes to all that apply?

- | | |
|---|--|
| <input type="checkbox"/> Home | <input type="checkbox"/> Friends' houses |
| <input type="checkbox"/> Bars/Entertainment | <input type="checkbox"/> School |
| <input type="checkbox"/> Workplace | <input type="checkbox"/> Other: |

- | | |
|--------------------------------------|--|
| <input type="checkbox"/> Hospitals | <input type="checkbox"/> I am not exposed to secondhand smoke. |
| <input type="checkbox"/> Restaurants | |

33. If you currently smoke or use smokeless tobacco, where would you go for help in quitting?

- I don't smoke or use smokeless tobacco
- Quit Now NC! [1-800-QUIT-NOW]
- Doctor, nurse

- Health Department
- Church
- Pharmacy
- Private counselor/therapist
- Not applicable; I don't want to quit
- Other: _____

34. How many days a week do you do moderate exercise, like walking that makes you break a sweat, for at least 30 minutes?

- 5 or more days a week
- 3 days a week
- 1-2 days a week
- None

35. What keeps you from being more physically active? Tell me all that apply.

- It's hard to find time to be more active
- When the weather is bad you give up
- You have too many aches and pains to be active
- You're not sure what to do or how to get started
- There is no place near your house where it's safe or easy to walk or exercise
- Your friends and family aren't active
- It costs too much to join a gym or buy the right equipment
- You don't want to be more physically active

36. Now we want to ask about community and family violence. In your opinion, are these types of violence a problem in your community here in Orange County? I'll ask you about several kinds of violence, please tell me if you think it is not a problem, somewhat of a problem, a major problem or if you don't know whether it is a problem or not. Remember this is a question about the community where you live, not necessarily about you and your family.

	No problem	Somewhat of a problem	Major problem	I don't know
Domestic Violence/Partner abuse	1	2	3	n/a
Child abuse	1	2	3	n/a
Abuse or neglect of older people	1	2	3	n/a
Sexual Violence	1	2	3	n/a
Violence among youth	1	2	3	n/a
Youth access to and use of weapons	1	2	3	n/a
Gang violence	1	2	3	n/a
Weapons in schools	1	2	3	n/a
Violence in TV/movies/video games	1	2	3	n/a

This next group of questions are about environmental health, which is part of community health.

37. Please look at this list of environmental issues. . If you prefer me to read the list to you, I can do that too. [Hand them the laminated sheet #3.] Which of these things stand out for you as important environmental issues in Orange County? Choose three. This question is not asking about you and your family, but which three of these issues most affect our community as a whole. If you think of an issue that is not on the list, let me know and we can write it in.

Environmental Concerns in the Community #3

Orange County

Choose 3

- Air pollution**
- Development, loss of farms, forest, and open space**
- Garbage and solid waste issues**
- Food safety**
- Hazardous waste disposal**
- Lead hazards to children**
- Septic system or sewer system problems**
- Water pollution in lakes, streams and rivers**
- Groundwater contamination**
- Drinking water quality**
- Global warming**
- Other _____**

Here are a few more questions about the environment in Orange County.

38. Do you have a septic tank? Yes No Don't know
IF Yes ask 38 A and 38 B if No, skip to question 39.

38A. Do you know where it is located? Yes No

38B. How often do you have it pumped?

- Every __ years
- Have never had it pumped
- Don't know / remember
- Refuse to answer

39. Do you have well water? Yes No Don't Know
If yes, ask 39A, otherwise skip to 40.

39A. Have you ever had it tested? Yes No Don't know

40. How would you describe the taste of your water? (either city or well water)
 Excellent Very Good Good Fair Poor not sure/don't know

41. What do you do with your household garbage, *not* including yard waste? Tell me all that apply.

- Take it to the Orange County convenience center (dumpster site)
- Take it to the landfill
- Hire a garbage pickup service
- Town provides garbage service > If yes, which town _____
- Burn it
- Private dump
- Other: _____

42. Do you recycle? Yes No

If yes, ask 42A and 42B.

42A. What do you recycle? Tell me all that apply

- Glass
- Plastic bottles
- Mixed paper
- Aluminum beverage cans
- Steel food cans
- Corrugated cardboard
- Newspaper
- Magazines (glossy)
- Yard waste
- Make compost from kitchen scraps and yard trimmings

42B. How do you recycle? Tell me all that apply.

- Curbside recycling pickup
- County convenience center
- Recycling drop off site
- Other

43. What do you most often do with your out of date medications and over-the-counter drugs?

- Flush them down the drain
- Throw them in the trash
- Return them to the pharmacy or doctor
- Take them to the county household hazardous waste site
- Other

44. When you eat out, do you look for a sanitation grade card?

- Always
- Sometimes
- Never

If always or sometimes, ask 44A, otherwise skip to 45.

44A. Does the grade in a restaurant affect your decision on where to dine?

- Y
- N

Now I am going to ask you some questions about emergencies and preparedness

45. Do you have a plan for your household in case there's a natural disaster or an emergency?

- Yes
- No
- Don't know

46. Do you have a stock of water and non-perishable food in your home in case of emergency?

- Yes
- No
- Don't know

47. Do you have all the essential items you would need to evacuate your home at a moment's notice?

- Yes
- No
- Don't know

We're almost finished and I just need to ask you a few more questions about you and your household. We won't be connecting this information with you in any way.

48. What is your age:

- Under 18
- 18 – 25
- 26 – 39
- 40 – 54
- 55 - 64
- 65 - 74
- 75 or older
- Prefer not to answer

49. What is your gender: Male Female Prefer not to answer

50. What is your race: Tell me all that apply
 African American/Black
 Asian/Pacific Islander
 Native American
 White/Caucasian
 Other: _____
 Prefer not to answer

51. Do you consider yourself to be Hispanic and/or Latino/a?
 Yes
 No
 Prefer not to answer

52. What is your marital status?
 Married
 Not married/single
 Divorced
 Widowed
 Committed partner/living together
 Prefer not to answer

53. What is the highest education level you have completed?
 Less than high school
 High school diploma or GED
 Some College
 College degree or higher
 Prefer not to answer

54. What is the range of your household income?
 Less than \$20,000
 \$20,000 to \$39,999
 \$40,000 to \$59,999
 \$60,000 to \$79,999
 Over \$80,000
 Prefer not to answer

55. What is your employment status? Check all that apply
 Employed, full-time
 Employed, part-time
 Unemployed
 Retired
 Student

56. Do you:
 Rent your home
 Own your home

Don't know

57. Do you:

Live with your immediate family (spouse, kids)

Live with a relative

Live alone

Live with friends

Thank you for taking time to answer our survey; we appreciate your help to improve the health of Orange County. We want to share with you some information on community resources that you, a friend or family member may need at some time.



APPENDIX E: Encuesta para Evaluación de la Salud de la Comunidad del Condado de Orange en 2007

Equipo # _____

Encuesta # _____

Introducción

Hola, me llamo _____ y soy voluntario/voluntaria para el Equipo de la Evaluación de la Salud de la Comunidad del Departamento de la Salud del Condado de Orange. Quisieramos preguntar por sus opiniones sobre muchos asuntos diferentes del Condado de Orange. El objetivo de esta encuesta es aprender más de la salud y calidad de la vida en el Condado de Orange. Toda la información que usted nos da será confidencial; combinaremos sus respuestas con las de otras personas y pondremos los resultados en un informe que habla sobre de personas en que hablamos y nunca de una cierta persona en particular. No pondremos su nombre en la encuesta. Usaremos los resultados de la encuesta y otra información para identificar los asuntos más urgentes de nuestra comunidad. La encuesta durará aproximadamente treinta (30) minutos. Sabemos que no es mucho, pero le daremos dos naranjas frescas para representar un Condado de Orange sano y información sobre los servicios del Condado para agradecerle por su tiempo. Nos permite hablar con Usted por más o menos treinta minutos? Bueno, me permite empezar con la primera pregunta? Es muy importante tener sus opiniones, y por eso, por favor haga que sus respuestas sean las más sinceras que puedan.

Primero, tenemos preguntas de la comunidad del Condado de Orange. Las siguientes declaraciones describen la vida en el Condado de Orange. Esta sección trata de la entera comunidad, no solamente su familia. Por favor, dígame si Usted esta de acuerdo o no de acuerdo con cada declaraciones.

Declaracion de la calidad de la vida	Encierre una respuesta para cada frase que sigue.
1. Hay bastante trabajos y oportunidades para mejorarse en el Condado de Orange.	De acuerdo No de acuerdo No se
2. El Condado de Orange es buen lugar para criar los niños.	De acuerdo No de acuerdo No se
3. El Condado de Orange es buen lugar para envejecerse.	De acuerdo No de acuerdo No se
4. La gente del Condado de Orange tienen acceso a buen cuidado de salud.	De acuerdo No de acuerdo No se

5. El Condado de Orange es un lugar seguro para vivir.

De acuerdo

No de acuerdo

No se

6. Por favor repase esta lista de asuntos de la salud. Si prefiere, puedo leer la lista para Usted. [Déle el folleto #1.] Cuales de estas cosas le parecen asuntos importantes de la salud en el Condado de Orange. Escoja tres. Esta pregunta no trata solamente de Usted y su familia, sino cuales son los tres asuntos que Usted piensa más afectan nuestra entera comunidad. Si Usted piensa en un asunto que no esta en la lista, digame y podemos incluirlo.

Preocupaciones Sociales en el Condado de Orange

Por favor escoja 3

- Personas con discapacidades no tienen acceso a todos lugares y servicios**
- Servicios insuficientes para los mayores**
- Violencia en la familia**
- Discriminación por raza u etnicidad**
- Gente que no tiene hogar**
- Acceso a cuidado de la salud**
- Seguridad del Internet**
- Violencia en la comunidad**
- Comportamiento riesgoso de los jovenes**
- Ganar bastante para las necesidades**
- Falta de transporte**
- Otra preocupación _____**

7. Por favor repase esta lista de asuntos de la salud. Si prefiere, puedo leer la lista para Usted. [Déle el folleto #2.] Cuales de estas cosas le parecen asuntos importantes de la salud en el Condado de Orange. Escoja tres. Esta pregunta no trata solamente de Usted y su familia, sino cuales son los tres asuntos que Usted piensa más afectan nuestra entera comunidad. Si Usted piensa en un asunto que no esta en la lista, dígame y podemos incluirlo.

Preocupaciones de la Salud en el Condado de Orange

Por favor escoja 3

- Falta de seguro médico
- Accidentes y daños
- Enfermedades transmitidas de animal a humano
- Mala salud dental
- Asma y enfermedades pulmonares
- Cáncer
- Diabetes
- Abuso de drogas y alcohol
- Gordura y obesidad
- Enfermedades de corazón
- Enfermedades transmitidas de humano a humano
- Trastornos de salud mental
- Uso de tabaco

Otra preocupación _____

Ahora le pregunto del *acceso a varios servicios de la salud*. Por favor, conteste lo mejor que pueda, pensando en sus propias experiencias y las experiencias de gente que conozca.

8. De donde obtiene Usted información de la salud? Dígame todos que corresponden.

- Radio
- Televisión
- Internet
- Periódico
- Revistas
- Médico
- Familia
- Amigos
- Otro _____

9. Como paga Usted por el cuidado de la salud, por ejemplo, cuando vaya al médico o a la sala de emergencias? **[Si preguntan que tipo de medico, conteste cualquier tipo salvo dentista o medico de los ojos.]** Voy a leer las selecciones. Dígame que haga Usted normalmente. Dígame todos que corresponden.

- Pago completamente con dinero, cheque, o tarjeta de credito
- Pago a plazos con dinero, cheque, o tarjeta de credito
- Seguro médico privado que compré solo/a
- Seguro médico privado cubierto por mi empleador u el empleador de mi esposo/a
- Medicaid
- Medicare
- Subsidios de la Administración de los Veteranos
- Otro: _____

10. A donde se lleva Usted con más frecuencia cuando esta enfermo/a o necesita consejo de la salud? **Por favor escoja solo uno.**

- | | |
|--|---|
| <input type="checkbox"/> Centro de salud de la comunidad | <input type="checkbox"/> Departamento de Salud |
| <input type="checkbox"/> Oficina del médico | <input type="checkbox"/> Clínica del hospital |
| <input type="checkbox"/> Sala de emergencias | <input type="checkbox"/> Centro del cuidado urgente |
| <input type="checkbox"/> Otro: _____ | |

11. En los últimos doce meses, Usted ha retrasado o no comprado una receta para medicina que necesitaba debido al costo de esa receta?

- Si No No necesitaba una receta

12. En los últimos doce meses, Usted ha cortado las pastillas para conservar su medicina?

- Si No No necesitaba una receta

13. En los últimos doce meses, había ocasiones que quería cuidado dental pero no podía conseguirlo?

- Si No

14. Que difícil era para encontrar una dentista que podía atenderle?

- Muy difícil
- Poco difícil
- No estoy seguro
- Poco difícil
- No difícil

15. Usted recibe el cuidado dental regular?

- Si **Si responde "si", vaya a pregunta 15A.**
- No **Si responde "no," vaya a pregunta 15B.**

15A. Usualmente a donde se lleva Usted para el cuidado dental?

- Oficina del dentista
- Centro de salud de la comunidad
- Clínica dental del departamento de la salud
- La escuela dental de UNC
- Sala de emergencias
- Clínica ambulante
- No tengo un sitio para el cuidado dental regular.
- Otro: _____

15B. Si Usted no recibe el cuidado dental regular, cuál es la razón más importante?

- No pensaba que era importante
- No sabía donde encontrar el cuidado dental
- No podía gastar dinero por cuidado dental
- No tenía transporte
- No podía conseguir una cita
- No podía quitar tiempo de mi trabajo
- No tenía cuidado por los niños
- La gente en la oficina dental no hablaba mi idioma
- Otro: _____

16. Si un amigo o pariente necesitaba asistencia psicológica por problemas con alcohol o drogas, a quien le recomendaría consultar? **Puede escoger más de uno.**

- | | |
|---|---|
| <input type="checkbox"/> Programa local de Salud Mental | <input type="checkbox"/> Médico |
| <input type="checkbox"/> Sacerdote/clérigo | <input type="checkbox"/> Grupo de apoyo |
| <input type="checkbox"/> Consejero o terapeuta privado | <input type="checkbox"/> No sé |
| <input type="checkbox"/> Consejero de la escuela | <input type="checkbox"/> Otro: _____ |

17. Si un amigo o pariente necesitaba asistencia psicológica por una problema de la salud mental, como la depresión, a quien le recomendaría consultar? **Puede escoger más de uno.**

- | | |
|---|---|
| <input type="checkbox"/> Programa local de Salud Mental | <input type="checkbox"/> Médico |
| <input type="checkbox"/> Sacerdote/clérigo | <input type="checkbox"/> Grupo de apoyo |
| <input type="checkbox"/> Consejero o terapeuta privado | <input type="checkbox"/> No sé |
| <input type="checkbox"/> Consejero de la escuela | <input type="checkbox"/> Otro: _____ |

18. Pensando en sus amigos, parientes, y su propia experiencia, por favor dígame que difícil es para encontrar ayuda en combatir el abuso de drogas y alcohol para uno que quiere ayuda?

- Muy fácil
- Poco fácil
- Poco difícil
- Muy difícil
- No sé

19. Pensando en sus amigos, parientes, y su propia experiencia, por favor dígame que difícil es para encontrar ayuda en combatir problemas de la salud mental, como la depresión, para uno que quiere ayuda?

- Muy fácil
- Poco fácil
- Poco difícil
- Muy difícil
- No sé

Esta sección hace preguntas de los niños. Si Usted no tiene niños menor de dieciocho años, pasamos a la próxima sección.

20. Usted tiene niños o nietos menor de dieciocho años viviendo en su casa?

- Niños: Vaya a # 21
- Nietos: Vaya a # 20A
- No: Vaya a #21

20A. Si tiene nietos viviendo en su casa, Usted es el/la cuidador/a principal de ellos?
Yes___ No___

20B. Si tiene nietos viviendo en su casa, Usted es el/la principal suministrador/a financiero/a de ellos? Yes___ No___

Las próximas preguntas tratan de asuntos de la vida diaria – incluye preguntas sobre su estilo de vida, por ejemplo de comer, de ejercicio, y de fumar.

21. En general, que saludable es su dieta entera?

- Excelente
- Muy bien
- Buena
- Mala
- Muy mala
- No sé

22. Que piensa es lo difícil de comer una dieta sana? Dígame todos que corresponden.

- La comida sana no es sabrosa
- La comida sana cuesta demasiada
- Lleva tiempo para preparar y comprar la comida sana
- No sé cocinar y preparar la comida sana
- Es difícil encontrar la comida sana cuando uno come afuera de la casa
- Si, como una dieta sana – no es difícil
- Otro: _____

23. Cuántas veces a la semana come comida que no estaba preparada en la casa, por ejemplo de un restaurante, cafetería, o la comida rápida?

- Nunca
- Menos de una vez a la semana
- Una vez a la semana
- Dos o tres veces a la semana
- Casi todos los días

24. Cocina en la casa? Si No A veces
Si contestó "no" o "a veces," vaya a 24A, si "si" pase a 25.

24A. Por que no cocina Usted?

- Demasiado ocupado
- Demasiado caro
- No sé cocinar
- No me gusta cocinar
- Otra persona cocina por mi

25. Cuántas refrescos regulares (sodas), té con azúcar, o otras bebidas azucaradas bebe cada día?

- Nada 1 2 3 o mas

26. En los últimos doce meses, estaba preocupado que la comida acabaria antes de que tendria dinero para comprar mas?

- Si, todo el tiempo Si, a veces No No sé

27. En los últimos doce meses, se sentia Usted que no podia gastar dinero para comer comidas sanas y balanceado (entre los tipos de comida – carne, grana, leche, fruta y verduras)?

- Si, todo el tiempo Si, a veces No No sé

28. En los últimos doce meses, tenia que hacer Usted comidas mas pequeñas, saltarse una comida, o bajar la cantidad gastado para comida porque no habia bastante dinero para comida?

- Si, todo el tiempo Si, a veces No No sé

29. Cuando vaya afuera de la casa para comer, que tipo de restaurante prefiere Usted? Por favor escoja una seleccion.

- a) Restaurantes donde no se permite fumar
- b) Restaurantes con partes separadas para los fumadores y para los que no fuman
- c) Restaurantes donde se permite fumar en todas partes.

30. Si Usted no fuma, cree que es dañoso a su salud respirar el humo de los cigarillos de otra persona, conocido como el humo de segunda mano?

- Si No No estoy seguro

31. Esta expuesto Usted al humo de segunda mano en los siguientes lugares? Digame todos que corresponden.

- Casa
 Bar/lugar de diversión
 Trabajo
 Hospitales
 Restaurantes
- Casa de amigos
 Escuela
 Otro: _____
 No me expone al humo de segunda mano.

32. Si Usted fuma o usa el tabaco sin humo actualmente, a donde se lleva ayudarse cesar?

- No fumo y no uso el tabaco sin humo
 Quit Now NC! [1-800-QUIT-NOW]
 Medico o enfermera
 Departamento de salud
 Iglesia
 Farmacia
 Consejero o terapeuta privado
 No me corresponde; no quiero cesar fumar
 Otro: _____

33. Cuantos dias a la semana hace los ejercicios moderado, como caminar hasta que suda, que dura por lo menos treinta minutos?

- Cinco o mas dias la semana
 Tres dias la semana
 Uno o dos dias la semana
 Nada

34. Que no le permite Usted estar mas activo fisicamente? Digame todos que son aplicables.

- Es dificil encontrar tiempo para estar mas activo
 Cuando tenemos tiempo malo, deajo de intentar
 Tiene demasiados dolores para estar activo
 No estoy seguro de que hacer o como empezar
 No hay lugar cerca de mi casa donde es seguro o facil caminar o hacer ejercicios
 Sus amigos y familia no estan activos
 Cuesta demasiado inscribirme en un gimnasio o compra el equipo necesario
 No quiere estar mas activo fisicamente

35. Ahora queremos preguntarle de la comunidad y la violencia en la familia. Que opina de estas formas de violencias en su comunidad en el Condado de Orange? Le pregunto de varias formas de violencia, por favor digame si Usted piensa que no es problema, es poco problema, es un gran problema, o no sabe si es, para su comunidad. Acuerdese que es pregunta de la comunidad donde vive, no necesariamente de Usted y su familia.

	No problema	Poco problema	Gran problema	No se
Violencia domestica/Abuso de parejo	1	2	3	n/a
Abuso de niños	1	2	3	n/a
Abuso o negligencia de los mayores	1	2	3	n/a
Violencia sexual	1	2	3	n/a
Violencia entre los jovenes	1	2	3	n/a
Acceso a y uso de armas por jovenes	1	2	3	n/a
Violencia de pandillas ("gang")	1	2	3	n/a

Armas en las escuelas	1	2	3	n/a
Violencia en la television/peliculas/ juegos de video	1	2	3	n/a

El proximo grupo de preguntas trata de la salud del medio ambiente, la cual tambien es una parte importante de la salud de la comunidad.

36. Por favor repasa esta lista de asuntos del medio ambiente. Si prefiere, puedo leer la lista para Usted. [Déle el folleto #3.] Cuales de estas cosas le parecen asuntos importantes del medio ambiente en el Condado de Orange? Escoja tres. Esta pregunta no trata solamente de Usted y su familia, sino cuales son los tres asuntos que Usted piensa más afectan nuestra entera comunidad. Si Usted piensa en un asunto que no esta en la lista, digame y podemos incluirlo.

Preocupaciones del medio ambiente en la comunidad #3

Condado de Orange

Escoja 3

- Contaminación del aire**
- Desarrollo, destrucción de granjas, bosques, y tierra libre**
- Basuras y desechos sólidos**
- Seguridad de alimentos**
- Eliminación de desechos peligrosos**
- Los niños a riesgo de intoxicación por plomo**
- Pozos sépticos y el sistema sanitario de alcantarilla**
- Contaminación del agua**
- Contaminación del agua subterráneo**
- Calidad del agua potable**
- Calentamiento global**
- Otra preocupación _____**

Aquí tenemos varias otras preguntas del medio ambiente en el Condado de Orange.

37. Usted tiene pozo septico? Si No No se
Si contestó "si" siga a 38 A y 38 B; si "no", pase a pregunta 39.

38A. Usted sabe donde esta? Si No

38B. Con que frecuencia se vacia o bombea?

Cada __ años

Nunca

No se/no me acuerdo

No contesta

39. Usted tiene agua de un pozo? Si No No se
Si contesta "Si," preguntele 39A; si "no" pase a 40.

39A. Alguien nunca ha examinado el agua del pozo? Si No No se

40. Como se describe el sabor de su agua? (agua del pozo o de las reservas de la ciudad)
 Excelente Muy bien Bueno Malo Muy mal No se/no estoy seguro

41. Que hace Usted con la basura de su casa, no incluyendo la basura del jardin y cespced?
Digame todos que corresponden.

Llevarlas a los centros de desechos solidos del Condado de Orange

Llevarlas al sitio de entierro de basuras (vertedero de basuras)

Emplear un servicio para recoger basuras

El pueblo/cuidad tiene un servicio que recoge basuras --> Si, cual pueblo/cuidad

Incinerarlas (Quemarlas)

Contenedor o entierro de basuras privado

Otro: _____

42. Usted hace el reciclaje? Si No

Si "si," preguntele 42A and 42B.

42A. Que recicla? Digame todos que son aplicables.

Vidrio

Botellas plasticas

Papel

Latas de aluminio

Latas de acero

Cartones ondulados

Periodicos

Revistas lustrosas, glaseada

Basuras del jardin y cespced/pasto

Hacer el compost (fertilizante) de las basuras de la cocina y el jardín

42B. Como recicla? Dígame todos que corresponden.

Recoge al bordillo/cordon (de la calle)

Centros de desechos sólidos del Condado de Orange

Sitio para dejar reciclados

Otro

43. Que hace Usted normalmente con los medicamentos que han pasado la fecha de caducidad?

Echarlos al baño

Echarlos en la basura

Devolverlos a la farmacia o médico

Llevarlos al sitio municipal para basuras peligrosas de la casa

Otro

44. Cuando come Usted afuera de la casa, busca la tarjeta de grado sanitario del restaurante?

Siempre

A veces

Nunca

Si "siempre" o "a veces", preguntele 44A, si "nunca" pase a 45.

44A. El grado sanitario del restaurante afecta su decisión de donde va a comer?

Si

No

Ahora le pregunto de las emergencias y su preparación.

45. Usted tiene un plan para su casa y familia en caso de una emergencia o un desastre natural?

Si No No se

46. Usted tiene reservas de agua y comidas no-percederas en su casa en caso de emergencia?

Si No No se

47. Usted tiene todas las cosas necesarias para evacuar su casa rápidamente?

Si No No se

Casi terminamos y solo necesito preguntarle unas más de Usted y su familia. Su nombre no está puesto con esta información.

48. Cuantos años tiene:

Menos de 18 (dieciocho)

- 18 – 25 (dieciocho a veinticinco)
- 26 – 39 (veintiseis a treinta y nueve)
- 40 – 54 (cuarenta a cincuenta y cuatro)
- 55 – 64 (cincuenta y cinco a sesenta y cuatro)
- 65 – 74 (sesenta y cinco a setenta y cuatro)
- Mayor de 75 (setenta y cinco)
- Prefiero no contestar

49. Que sexo es Usted: Masculino Feminino Prefiero no contestar

50. De que raza es Usted: Digame todos que corresponden

- Africano-Americano/Negro
- Asiano/de Islas Pacificas
- Nativo Americano
- Blanco/Anglasajona/Caucaseo
- Otro: _____
- Prefiero no contestar

51. Se considera Usted mismo ser “hispano/a” y/o “latino/a”?

- Si
- No
- Prefiero no contestar

52. Que es su estado civil?

- Casado/a
- Soltero/a
- Divorciado
- Viudo/a
- Prometido a pareja/viviendo juntos
- Prefiero no contestar

53. Cual es el nivel más alto que completo en la escuela?

- Menos de la escuela secundaria
- Diploma de la escuela secundaria o GED
- Una parte del colegio
- Diploma del colegio o mas
- Otro: _____
- Prefiero no contestar

54. En cual categoria cae los ingresos de su casa/familia?

- Menos de \$20,000 (vente mil dolares)
- \$20,000 a \$39,999 (vente mil a treinta y nueve mil, novecientos noventa y nueve)
- \$40,000 to \$59,999 (cuarenta mil a cincuenta y nueve mil, novecientos noventa y nueve)
- \$60,000 to \$79,999 (sesenta mil a setenta y nueve mil, novecientos noventa y nueve)
- Mas de \$80,000 (ochenta mil)
- Prefiero no contestar

55. Que es su estado de empleo?

- Empleado, a tiempo completo
- Empleado, a medio tiempo (tiempo parcial)

- Desempleado
- Jubilado
- Estudiante

56. Usted:

- Alquila su hogar
- es dueño de su hogar
- No se

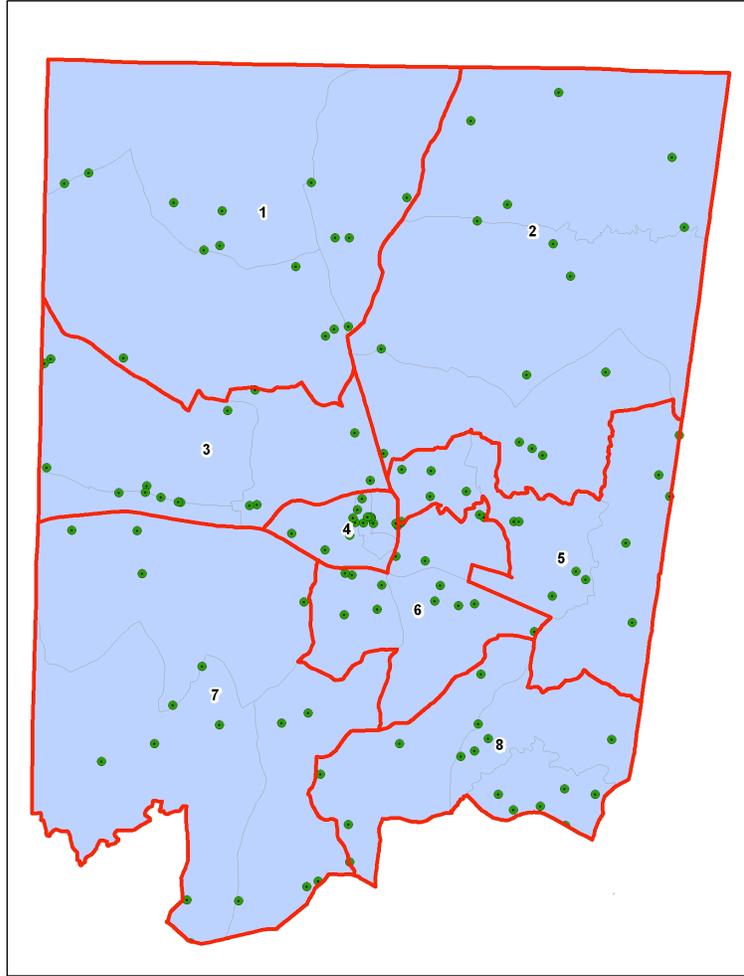
57. Usted:

- Vive con su familia mas cercana (esposo/a, niños)
- Vive con parientes
- Vive solo/a
- Vive con amigos

Muchisimas gracias por su tiempo en responder a nuestra encuesta; le agradecemos por ayudarnos en mejorar la salud del Condado de Orange. Quisieramos compartir la informacion que tenemos de los recursos de la comunidad que Usted, un amigo, o un pariente quisiera utilizar de aqui en adelante.

APPENDIX F: MAP OF SURVEY LOCATIONS

Northern Orange County Survey Locations



Southern Orange County Survey Locations

